TrigonometryExercise4 for No.10052

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}\left(\frac{5\pi}{12}\right) & .2 = \mathrm{Cos}(105^o) \\ .3 = \mathrm{Tan}(15^o) & .4 = \mathrm{Csc}\left(-\frac{17\pi}{12}\right) \\ .5 = \mathrm{Tan}((-15)^o) & .6 = \mathrm{Sec}(255^o) \\ .7 = \mathrm{Sin}\left(-\frac{23\pi}{12}\right) & .8 = \mathrm{Cos}\left(\frac{13\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \mathrm{Cos}(78^o)\,\mathrm{Cos}(12^o) - \mathrm{Sin}(78^o)\,\mathrm{Sin}(12^o) & .2 = \mathrm{Cos}\left(\frac{4\pi}{9}\right)\mathrm{Cos}\left(\frac{\pi}{9}\right) + \mathrm{Sin}\left(\frac{4\pi}{9}\right)\mathrm{Sin}\left(\frac{\pi}{9}\right) \\ .3 = 2\,\mathrm{Sin}(15^o)\,\mathrm{Cos}(15^o) & .4 = 1 - 2\,\mathrm{Sin}\left(\frac{\pi}{12}\right)^2 \\ .5 = \frac{2\,\mathrm{Tan}\left(\frac{\pi}{12}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{12}\right)^2} & .6 = \frac{\mathrm{Tan}(12^o) + \mathrm{Tan}(18^o)}{1 - \mathrm{Tan}(12^o)\,\mathrm{Tan}(18^o)} \\ .7 = \mathrm{Cos}\left(\frac{\pi}{8}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{8}\right)^2 & .8 = \mathrm{Sin}\left(\frac{7\pi}{12}\right)\mathrm{Cos}\left(\frac{\pi}{12}\right) - \mathrm{Cos}\left(\frac{7\pi}{12}\right)\mathrm{Sin}\left(\frac{\pi}{12}\right) \\ .9 = 2\,\mathrm{Cos}(22.5^o)^2 - 1 & .10 = \frac{\mathrm{Tan}(42^o) - \mathrm{Tan}(12^o)}{1 + \mathrm{Tan}(42^o)\,\mathrm{Tan}(12^o)} \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, \mathrm{D} = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{5}{9}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-2}{3}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha + \beta) \\ .5 = \mathrm{Cos}(\beta - \alpha) & .6 = \mathrm{Tan}(\alpha - \beta) \\ .7 = \mathrm{Cos}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, \mathrm{D} = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{6}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-1}{4}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(76^o) = 0.242), Question = \mathrm{Sin}(38^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(50^o) = 0.643), Question = \mathrm{Cos}(25^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No1 = \begin{bmatrix} .1 = \mathrm{Cos}\left(\frac{5\pi}{12}\right) & .2 = \mathrm{Sin}(105^o) \\ .3 = \mathrm{Tan}\left(\frac{\pi}{12}\right) & .4 = \mathrm{Sin}\left(\frac{11\pi}{12}\right) \\ .5 = \mathrm{Tan}(195^o) & .6 = \mathrm{Csc}((-165)^o) \\ .7 = \mathrm{Sec}\left(\frac{19\pi}{12}\right) & .8 = \mathrm{Cos}\left(-\frac{23\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\,\mathrm{Cos}(22.5^o)^2 - 1 & .2 = \dfrac{\mathrm{Tan}\left(\frac{2\pi}{5}\right) - \mathrm{Tan}\left(\frac{\pi}{15}\right)}{1 + \mathrm{Tan}\left(\frac{2\pi}{5}\right)\mathrm{Tan}\left(\frac{\pi}{15}\right)} \\ .3 = \mathrm{Sin}(65^o)\,\mathrm{Cos}(20^o) - \mathrm{Cos}(65^o)\,\mathrm{Sin}(20^o) & .4 = \mathrm{Sin}(18^o)\,\mathrm{Cos}(12^o) + \mathrm{Cos}(18^o)\,\mathrm{Sin}(12^o) \\ .5 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{12}\right)^2 & .6 = 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)\mathrm{Cos}\left(\frac{\pi}{8}\right) \\ .7 = \dfrac{2\,\mathrm{Tan}(15^o)}{1 - \mathrm{Tan}(15^o)^2} & .8 = 1 - 2\,\mathrm{Sin}(15^o)^2 \\ .9 = \mathrm{Cos}\left(\frac{\pi}{9}\right)\mathrm{Cos}\left(\frac{7\pi}{18}\right) - \mathrm{Sin}\left(\frac{\pi}{9}\right)\mathrm{Sin}\left(\frac{7\pi}{18}\right) & .10 = \mathrm{Cos}(40^o)\,\mathrm{Cos}(10^o) + \mathrm{Sin}(40^o)\,\mathrm{Sin}(10^o) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{5}{8}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{2}{3}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha + \beta) \\ .5 = \mathrm{Cos}(\alpha - \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{matrix}\right]\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{-5}{6}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-5}{7}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\alpha - \beta) \\ .7 = \mathrm{Sin}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(14^o) = 0.970), Question = \mathrm{Cos}(7^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(56^o) = 0.559), Question = \mathrm{Sin}(28^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.10076

$$No1 = \begin{bmatrix} .1 = \text{Sin}\left(\frac{\pi}{12}\right) & .2 = \text{Cos}(75^o) \\ .3 = \text{Tan}(105^o) & .4 = \text{Tan}\left(-\frac{5\pi}{12}\right) \\ .5 = \text{Cot}((-285)^o) & .6 = \text{Cos}\left(\frac{11\pi}{12}\right) \\ .7 = \text{Csc}(345^o) & .8 = \text{Sec}((-105)^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \text{Cos}(75^o)\,\text{Cos}(15^o) - \text{Sin}(75^o)\,\text{Sin}(15^o) & .2 = \dfrac{\text{Tan}(10^o) + \text{Tan}(50^o)}{1 - \text{Tan}(10^o)\,\text{Tan}(50^o)} \\ .3 = 2\,\text{Cos}(15^o)^2 - 1 & .4 = \text{Sin}\left(\frac{2\pi}{9}\right)\text{Cos}\left(\frac{\pi}{18}\right) - \text{Cos}\left(\frac{2\pi}{9}\right)\text{Sin}\left(\frac{\pi}{18}\right) \\ .5 = 1 - 2\,\text{Sin}\left(\frac{\pi}{8}\right)^2 & .6 = 2\,\text{Sin}\left(\frac{\pi}{12}\right)\text{Cos}\left(\frac{\pi}{12}\right) \\ .7 = \text{Sin}\left(\frac{\pi}{12}\right)\text{Cos}\left(\frac{\pi}{6}\right) + \text{Cos}\left(\frac{\pi}{12}\right)\text{Sin}\left(\frac{\pi}{6}\right) & .8 = \text{Cos}(22.5^o)^2 - \text{Sin}(22.5^o)^2 \\ .9 = \dfrac{\text{Tan}\left(\frac{17\pi}{36}\right) - \text{Tan}\left(\frac{5\pi}{36}\right)}{1 + \text{Tan}\left(\frac{17\pi}{36}\right)\text{Tan}\left(\frac{5\pi}{36}\right)} & .10 = \dfrac{2\,\text{Tan}\left(\frac{\pi}{8}\right)}{1 - \text{Tan}\left(\frac{\pi}{8}\right)^2} \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, \text{D} = \pi\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{1}{5}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{1}{4}\right)\right] \\ \left[\left[\begin{matrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\beta) & .4 = \text{Sin}(\alpha - \beta) \\ .5 = \text{Cos}(\alpha + \beta) & .6 = \text{Tan}(\beta - \alpha) \\ .7 = \text{Sin}(2\,\beta) & .8 = \text{Tan}(2\,\alpha) \end{matrix}\right]\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{3\pi}{2}, \text{D} = 2\,\pi\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{-3}{8}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-3}{4}\right)\right] \\ \left[\left[\begin{matrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\alpha + \beta) \\ .5 = \text{Cos}(\beta - \alpha) & .6 = \text{Tan}(\alpha - \beta) \\ .7 = \text{Cos}(2\,\alpha) & .8 = \text{Tan}(2\,\beta) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\text{Cos}(34^o) = 0.829), Question = \text{Cos}(17^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\text{Cos}(6^o) = 0.995), Question = \text{Sin}(3^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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$$No1 = \begin{bmatrix} .1 = \text{Cos}(105^o) & .2 = \text{Sin}\left(\frac{5\pi}{12}\right) \\ .3 = \text{Tan}\left(\frac{\pi}{12}\right) & .4 = \text{Tan}((-15)^o) \\ .5 = \text{Sec}\left(-\frac{7\pi}{12}\right) & .6 = \text{Cot}((-195)^o) \\ .7 = \text{Cos}\left(-\frac{23\pi}{12}\right) & .8 = \text{Sin}(195^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 1 - 2\,\text{Sin}(22.5^o)^2 & .2 = \text{Cos}\left(\frac{7\pi}{36}\right)\text{Cos}\left(\frac{5\pi}{36}\right) - \text{Sin}\left(\frac{7\pi}{36}\right)\text{Sin}\left(\frac{5\pi}{36}\right) \\ .3 = \text{Cos}(15^o)^2 - \text{Sin}(15^o)^2 & .4 = \frac{\text{Tan}\left(\frac{11\pi}{36}\right) - \text{Tan}\left(\frac{\pi}{18}\right)}{1 + \text{Tan}\left(\frac{11\pi}{36}\right)\text{Tan}\left(\frac{\pi}{18}\right)} \\ .5 = \text{Sin}\left(\frac{2\pi}{9}\right)\text{Cos}\left(\frac{\pi}{18}\right) - \text{Cos}\left(\frac{2\pi}{9}\right)\text{Sin}\left(\frac{\pi}{18}\right) & .6 = \frac{\text{Tan}(25^o) + \text{Tan}(20^o)}{1 - \text{Tan}(25^o)\,\text{Tan}(20^o)} \\ .7 = \text{Sin}(20^o)\,\text{Cos}(10^o) + \text{Cos}(20^o)\,\text{Sin}(10^o) & .8 = \frac{2\,\text{Tan}\left(\frac{\pi}{12}\right)}{1 - \text{Tan}\left(\frac{\pi}{12}\right)^2} \\ .9 = 2\,\text{Sin}\left(\frac{\pi}{8}\right)\text{Cos}\left(\frac{\pi}{8}\right) & .10 = 2\,\text{Cos}\left(\frac{\pi}{12}\right)^2 - 1 \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{1}{5}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-4}{9}\right)\right] \\ \left[\begin{bmatrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\alpha - \beta) \\ .5 = \text{Cos}(\alpha + \beta) & .6 = \text{Tan}(\beta - \alpha) \\ .7 = \text{Cos}(2\beta) & .8 = \text{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{3\pi}{2}, B = 2\pi, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{5}{6}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{2}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\alpha + \beta) \\ .5 = \text{Cos}(\alpha - \beta) & .6 = \text{Tan}(\beta - \alpha) \\ .7 = \text{Sin}(2\beta) & .8 = \text{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\text{Cos}(70^o) = 0.342), Question = \text{Cos}(35^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\text{Cos}(16^o) = 0.961), Question = \text{Sin}(8^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.10083

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}(75^o) & .2 = \mathrm{Cos}\left(\frac{7\pi}{12}\right) \\ .3 = \mathrm{Tan}(15^o) & .4 = \mathrm{Csc}(255^o) \\ .5 = \mathrm{Cot}\left(-\frac{7\pi}{12}\right) & .6 = \mathrm{Tan}\left(-\frac{11\pi}{12}\right) \\ .7 = \mathrm{Cos}((-195)^o) & .8 = \mathrm{Sin}\left(\frac{11\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \mathrm{Cos}\left(\frac{11\pi}{36}\right)\mathrm{Cos}\left(\frac{\pi}{18}\right) + \mathrm{Sin}\left(\frac{11\pi}{36}\right)\mathrm{Sin}\left(\frac{\pi}{18}\right) & .2 = 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)\mathrm{Cos}\left(\frac{\pi}{8}\right) \\ .3 = \frac{\mathrm{Tan}\left(\frac{\pi}{9}\right) + \mathrm{Tan}\left(\frac{5\pi}{36}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{9}\right)\mathrm{Tan}\left(\frac{5\pi}{36}\right)} & .4 = 2\,\mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - 1 \\ .5 = \frac{\mathrm{Tan}(80^o) - \mathrm{Tan}(20^o)}{1 + \mathrm{Tan}(80^o)\,\mathrm{Tan}(20^o)} & .6 = \mathrm{Cos}(80^o)\,\mathrm{Cos}(10^o) - \mathrm{Sin}(80^o)\,\mathrm{Sin}(10^o) \\ .7 = \frac{2\,\mathrm{Tan}\left(\frac{\pi}{12}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{12}\right)^2} & .8 = 1 - 2\,\mathrm{Sin}(22.5^o)^2 \\ .9 = \mathrm{Cos}(15^o)^2 - \mathrm{Sin}(15^o)^2 & .10 = \mathrm{Sin}\left(\frac{\pi}{18}\right)\mathrm{Cos}\left(\frac{\pi}{9}\right) + \mathrm{Cos}\left(\frac{\pi}{18}\right)\mathrm{Sin}\left(\frac{\pi}{9}\right) \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, \mathrm{D} = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{5}{7}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-2}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\alpha - \beta) \\ .7 = \mathrm{Cos}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \frac{3\pi}{2}, \mathrm{D} = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{-2}{3}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-3}{7}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\beta - \alpha) & .6 = \mathrm{Tan}(\alpha + \beta) \\ .7 = \mathrm{Cos}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(32^o) = 0.848), Question = \mathrm{Cos}(16^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(76^o) = 0.242), Question = \mathrm{Sin}(38^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.10109

$$No1 = \begin{bmatrix} .1 = \sin\left(\frac{5\pi}{12}\right) & .2 = \cos(15^{o}) \\ .3 = \tan(105^{o}) & .4 = \cos((-345)^{o}) \\ .5 = \tan\left(-\frac{13\pi}{12}\right) & .6 = \cot\left(-\frac{7\pi}{12}\right) \\ .7 = \csc(195^{o}) & .8 = \sec((-15)^{o}) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 1 - 2\sin\left(\frac{\pi}{8}\right)^2 & .2 = 2\sin(22.5^{o})\cos(22.5^{o}) \\ .3 = \sin(50^{o})\cos(10^{o}) + \cos(50^{o})\sin(10^{o}) & .4 = \frac{\tan\left(\frac{4\pi}{9}\right) - \tan\left(\frac{\pi}{9}\right)}{1 + \tan\left(\frac{4\pi}{9}\right)\tan\left(\frac{\pi}{9}\right)} \\ .5 = \sin\left(\frac{11\pi}{36}\right)\cos\left(\frac{\pi}{18}\right) - \cos\left(\frac{11\pi}{36}\right)\sin\left(\frac{\pi}{18}\right) & .6 = \frac{2\tan(22.5^{o})}{1 - \tan(22.5^{o})^2} \\ .7 = \frac{\tan(30^{o}) + \tan(15^{o})}{1 - \tan(30^{o})\tan(15^{o})} & .8 = 2\cos(15^{o})^2 - 1 \\ .9 = \cos(110^{o})\cos(20^{o}) + \sin(110^{o})\sin(20^{o}) & .10 = \cos\left(\frac{\pi}{12}\right)^2 - \sin\left(\frac{\pi}{12}\right)^2 \end{bmatrix}, , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{1}{6}\right), Cond2 = \left(\cos(\beta) = \frac{-5}{6}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\beta - \alpha) \\ .5 = \cos(\alpha - \beta) & .6 = \tan(\alpha + \beta) \\ .7 = \cos(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}, , No4 = \begin{bmatrix} \left[A = \frac{3\pi}{2}, B = 2\pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{-2}{5}\right), Cond2 = \left(\cos(\beta) = \frac{-1}{2}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\alpha - \beta) \\ .5 = \cos(\beta - \alpha) & .6 = \tan(\alpha + \beta) \\ .7 = \sin(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\cos(68^{o}) = 0.375), Question = \sin(34^{o})], , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(22^{o}) = 0.927), Question = \cos(11^{o})], , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No1 = \begin{bmatrix} .1 = \cos(15^o) & .2 = \sin\left(\frac{7\pi}{12}\right) \\ .3 = \tan(75^o) & .4 = \csc\left(-\frac{19\pi}{12}\right) \\ .5 = \sec(165^o) & .6 = \tan((-75)^o) \\ .7 = \cot\left(-\frac{\pi}{12}\right) & .8 = \cos\left(\frac{13\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \sin\left(\frac{5\pi}{36}\right)\cos\left(\frac{\pi}{9}\right) + \cos\left(\frac{5\pi}{36}\right)\sin\left(\frac{\pi}{9}\right) & .2 = 1 - 2\sin\left(\frac{\pi}{8}\right)^2 \\ .3 = \cos\left(\frac{\pi}{12}\right)^2 - \sin\left(\frac{\pi}{12}\right)^2 & .4 = 2\cos(15^o)^2 - 1 \\ .5 = \frac{2\tan\left(\frac{\pi}{12}\right)}{1 - \tan\left(\frac{\pi}{12}\right)^2} & .6 = 2\sin(22.5^o)\cos(22.5^o) \\ .7 = \frac{\tan(60^o) - \tan(15^o)}{1 + \tan(60^o)\tan(15^o)} & .8 = \frac{\tan(40^o) + \tan(20^o)}{1 - \tan(40^o)\tan(20^o)} \\ .9 = \cos\left(\frac{5\pi}{18}\right)\cos\left(\frac{\pi}{9}\right) + \sin\left(\frac{5\pi}{18}\right)\sin\left(\frac{\pi}{9}\right) & .10 = \sin\left(\frac{17\pi}{30}\right)\cos\left(\frac{\pi}{15}\right) - \cos\left(\frac{17\pi}{30}\right)\sin\left(\frac{\pi}{15}\right) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{5}{6}\right), Cond2 = \left(\cos(\beta) = \frac{-2}{7}\right)\right] \\ \left[\begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\beta - \alpha) \\ .5 = \cos(\alpha + \beta) & .6 = \tan(\alpha - \beta) \\ .7 = \sin(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{-3}{7}\right), Cond2 = \left(\sin(\beta) = \frac{-2}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\alpha - \beta) \\ .5 = \cos(\alpha + \beta) & .6 = \tan(\beta - \alpha) \\ .7 = \cos(2\alpha) & .8 = \tan(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\cos(48^o) = 0.669), Question = \sin(24^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(78^o) = 0.208), Question = \cos(39^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.10181

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}\left(\frac{7\pi}{12}\right) & .2 = \mathrm{Cos}(15^o) \\ .3 = \mathrm{Tan}\left(\frac{5\pi}{12}\right) & .4 = \mathrm{Csc}(255^o) \\ .5 = \mathrm{Cot}\left(\frac{23\pi}{12}\right) & .6 = \mathrm{Cos}\left(-\frac{5\pi}{12}\right) \\ .7 = \mathrm{Sin}(285^o) & .8 = \mathrm{Tan}(195^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 1 - 2\,\mathrm{Sin}(22.5^o)^2 & .2 = \mathrm{Sin}(25^o)\,\mathrm{Cos}(20^o) + \mathrm{Cos}(25^o)\,\mathrm{Sin}(20^o) \\ .3 = \mathrm{Sin}\left(\frac{2\pi}{9}\right)\mathrm{Cos}\left(\frac{\pi}{18}\right) - \mathrm{Cos}\left(\frac{2\pi}{9}\right)\mathrm{Sin}\left(\frac{\pi}{18}\right) & .4 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{12}\right)^2 \\ .5 = \frac{\mathrm{Tan}(55^o) - \mathrm{Tan}(10^o)}{1 + \mathrm{Tan}(55^o)\,\mathrm{Tan}(10^o)} & .6 = 2\,\mathrm{Cos}(15^o)^2 - 1 \\ .7 = 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)\mathrm{Cos}\left(\frac{\pi}{8}\right) & .8 = \mathrm{Cos}\left(\frac{\pi}{18}\right)\mathrm{Cos}\left(\frac{5\pi}{18}\right) - \mathrm{Sin}\left(\frac{\pi}{18}\right)\mathrm{Sin}\left(\frac{5\pi}{18}\right) \\ .9 = \mathrm{Cos}\left(\frac{2\pi}{5}\right)\mathrm{Cos}\left(\frac{\pi}{15}\right) + \mathrm{Sin}\left(\frac{2\pi}{5}\right)\mathrm{Sin}\left(\frac{\pi}{15}\right) & .10 = \frac{2\,\mathrm{Tan}\left(\frac{\pi}{8}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{8}\right)^2} \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0,\ B = \frac{\pi}{2},\ C = \frac{\pi}{2},\ \mathrm{D} = \pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{2}\right),\ Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-1}{5}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\beta - \alpha) & .6 = \mathrm{Tan}(\alpha + \beta) \\ .7 = \mathrm{Sin}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{3\pi}{2},\ B = 2\pi,\ C = \pi,\ \mathrm{D} = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{5}{9}\right),\ Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-5}{6}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha - \beta) & .6 = \mathrm{Tan}(\alpha + \beta) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [\,Cond = (\mathrm{Cos}(24^o) = 0.914),\ Question = \mathrm{Sin}(12^o)\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [\,Cond = (\mathrm{Cos}(58^o) = 0.530),\ Question = \mathrm{Cos}(29^o)\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.10191

$$No1 = \begin{bmatrix} .1 = \mathrm{Cos}\left(\frac{5\pi}{12}\right) & .2 = \mathrm{Sin}(15^o) \\ .3 = \mathrm{Tan}(105^o) & .4 = \mathrm{Cos}(165^o) \\ .5 = \mathrm{Sin}\left(\frac{23\pi}{12}\right) & .6 = \mathrm{Tan}\left(-\frac{\pi}{12}\right) \\ .7 = \mathrm{Sec}((\text{-}255)^o) & .8 = \mathrm{Cot}(255^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\,\mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - 1 & .2 = \mathrm{Cos}\left(\frac{\pi}{8}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{8}\right)^2 \\ .3 = \frac{\mathrm{Tan}\left(\frac{7\pi}{18}\right) - \mathrm{Tan}\left(\frac{\pi}{18}\right)}{1 + \mathrm{Tan}\left(\frac{7\pi}{18}\right)\mathrm{Tan}\left(\frac{\pi}{18}\right)} & .4 = \mathrm{Sin}(15^o)\,\mathrm{Cos}(30^o) + \mathrm{Cos}(15^o)\,\mathrm{Sin}(30^o) \\ .5 = 1 - 2\,\mathrm{Sin}(22.5^o)^2 & .6 = \mathrm{Cos}\left(\frac{\pi}{9}\right)\mathrm{Cos}\left(\frac{2\pi}{9}\right) - \mathrm{Sin}\left(\frac{\pi}{9}\right)\mathrm{Sin}\left(\frac{2\pi}{9}\right) \\ .7 = \mathrm{Sin}(102^o)\,\mathrm{Cos}(12^o) - \mathrm{Cos}(102^o)\,\mathrm{Sin}(12^o) & .8 = \frac{2\,\mathrm{Tan}\left(\frac{\pi}{8}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{8}\right)^2} \\ .9 = \frac{\mathrm{Tan}\left(\frac{\pi}{9}\right) + \mathrm{Tan}\left(\frac{\pi}{18}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{9}\right)\mathrm{Tan}\left(\frac{\pi}{18}\right)} & .10 = 2\,\mathrm{Sin}(15^o)\,\mathrm{Cos}(15^o) \end{bmatrix}, , \begin{bmatrix} :) \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{4}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{1}{2}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\beta - \alpha) & .6 = \mathrm{Tan}(\alpha + \beta) \\ .7 = \mathrm{Cos}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \; , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{-3}{5}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-2}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(62^o) = 0.469), Question = \mathrm{Cos}(31^o)], \; , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(32^o) = 0.848), Question = \mathrm{Sin}(16^o)], \; , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.10281

$$No1 = \begin{bmatrix} .1 = \sin\left(\frac{5\pi}{12}\right) & .2 = \cos(105^o) \\ .3 = \tan(15^o) & .4 = \cos((-195)^o) \\ .5 = \csc\left(\frac{19\pi}{12}\right) & .6 = \sec\left(-\frac{\pi}{12}\right) \\ .7 = \cot((-255)^o) & .8 = \tan\left(\frac{17\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{2\tan\left(\frac{\pi}{12}\right)}{1-\tan\left(\frac{\pi}{12}\right)^2} & .2 = \sin\left(\frac{\pi}{9}\right)\cos\left(\frac{7\pi}{18}\right)+\cos\left(\frac{\pi}{9}\right)\sin\left(\frac{7\pi}{18}\right) \\ .3 = \cos(40^o)\cos(20^o)-\sin(40^o)\sin(20^o) & .4 = \frac{\tan(85^o)-\tan(25^o)}{1+\tan(85^o)\tan(25^o)} \\ .5 = \cos\left(\frac{11\pi}{36}\right)\cos\left(\frac{\pi}{18}\right)+\sin\left(\frac{11\pi}{36}\right)\sin\left(\frac{\pi}{18}\right) & .6 = 2\cos\left(\frac{\pi}{8}\right)^2-1 \\ .7 = 1-2\sin(22.5^o)^2 & .8 = \sin\left(\frac{17\pi}{30}\right)\cos\left(\frac{\pi}{15}\right)-\cos\left(\frac{17\pi}{30}\right)\sin\left(\frac{\pi}{15}\right) \\ .9 = \cos(15^o)^2-\sin(15^o)^2 & .10 = 2\sin\left(\frac{\pi}{12}\right)\cos\left(\frac{\pi}{12}\right) \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A=0, B=\frac{\pi}{2}, C=\frac{3\pi}{2}, D=2\pi\right] \\ \left[Cond1 = \left(\sin(\alpha)=\frac{3}{7}\right), Cond2 = \left(\cos(\beta)=\frac{2}{3}\right)\right] \\ \left[\begin{bmatrix} .1=\cos(\alpha) & .2=\sin(\beta) \\ .3=\tan(\beta) & .4=\sin(\alpha-\beta) \\ .5=\cos(\beta-\alpha) & .6=\tan(\alpha+\beta) \\ .7=\sin(2\beta) & .8=\tan(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A=\pi, B=\frac{3\pi}{2}, C=\frac{\pi}{2}, D=\pi\right] \\ \left[Cond1 = \left(\cos(\alpha)=\frac{-1}{2}\right), Cond2 = \left(\sin(\beta)=\frac{5}{8}\right)\right] \\ \left[\begin{bmatrix} .1=\sin(\alpha) & .2=\cos(\beta) \\ .3=\tan(\beta) & .4=\sin(\alpha-\beta) \\ .5=\cos(\beta-\alpha) & .6=\tan(\alpha+\beta) \\ .7=\cos(2\alpha) & .8=\tan(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\cos(30^o) = 0.866), Question = \sin(15^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(8^o) = 0.990), Question = \cos(4^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.10437

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}\left(\frac{5\pi}{12}\right) & .2 = \mathrm{Cos}(15^o) \\ .3 = \mathrm{Tan}(105^o) & .4 = \mathrm{Sin}(345^o) \\ .5 = \mathrm{Sec}\left(-\frac{17\pi}{12}\right) & .6 = \mathrm{Csc}(195^o) \\ .7 = \mathrm{Cot}\left(-\frac{19\pi}{12}\right) & .8 = \mathrm{Cos}(255^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \mathrm{Cos}(15^o)^2 - \mathrm{Sin}(15^o)^2 & .2 = \frac{\mathrm{Tan}(65^o) - \mathrm{Tan}(20^o)}{1 + \mathrm{Tan}(65^o)\,\mathrm{Tan}(20^o)} \\ .3 = \mathrm{Sin}\left(\frac{2\pi}{9}\right)\mathrm{Cos}\left(\frac{\pi}{9}\right) + \mathrm{Cos}\left(\frac{2\pi}{9}\right)\mathrm{Sin}\left(\frac{\pi}{9}\right) & .4 = 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)\mathrm{Cos}\left(\frac{\pi}{8}\right) \\ .5 = \mathrm{Sin}\left(\frac{7\pi}{18}\right)\mathrm{Cos}\left(\frac{\pi}{18}\right) - \mathrm{Cos}\left(\frac{7\pi}{18}\right)\mathrm{Sin}\left(\frac{\pi}{18}\right) & .6 = 1 - 2\,\mathrm{Sin}(22.5^o)^2 \\ .7 = \mathrm{Cos}(12^o)\,\mathrm{Cos}(33^o) - \mathrm{Sin}(12^o)\,\mathrm{Sin}(33^o) & .8 = \frac{2\,\mathrm{Tan}\left(\frac{\pi}{8}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{8}\right)^2} \\ .9 = 2\,\mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - 1 & .10 = \mathrm{Cos}\left(\frac{7\pi}{30}\right)\mathrm{Cos}\left(\frac{\pi}{15}\right) + \mathrm{Sin}\left(\frac{7\pi}{30}\right)\mathrm{Sin}\left(\frac{\pi}{15}\right) \end{bmatrix}, , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{1}{3}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-4}{5}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha - \beta) & .6 = \mathrm{Tan}(\alpha + \beta) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}, \; , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{-1}{2}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-5}{9}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\alpha - \beta) \\ .7 = \mathrm{Cos}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(56^o) = 0.559), Question = \mathrm{Sin}(28^o)], \; , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(12^o) = 0.978), Question = \mathrm{Cos}(6^o)], \; , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.10493

$$No1 = \begin{bmatrix} .1 = \text{Sin}(75^o) & .2 = \text{Cos}\left(\frac{\pi}{12}\right) \\ .3 = \text{Tan}(105^o) & .4 = \text{Csc}(255^o) \\ .5 = \text{Tan}\left(-\frac{13\pi}{12}\right) & .6 = \text{Sec}\left(-\frac{7\pi}{12}\right) \\ .7 = \text{Sin}(345^o) & .8 = \text{Cos}(195^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{2\,\text{Tan}\left(\frac{\pi}{12}\right)}{1 - \text{Tan}\left(\frac{\pi}{12}\right)^2} & .2 = \text{Cos}(15^o)^2 - \text{Sin}(15^o)^2 \\ .3 = 2\,\text{Cos}(22.5^o)^2 - 1 & .4 = 2\,\text{Sin}\left(\frac{\pi}{12}\right)\text{Cos}\left(\frac{\pi}{12}\right) \\ .5 = \frac{\text{Tan}\left(\frac{7\pi}{36}\right) + \text{Tan}\left(\frac{\pi}{18}\right)}{1 - \text{Tan}\left(\frac{7\pi}{36}\right)\text{Tan}\left(\frac{\pi}{18}\right)} & .6 = \text{Sin}\left(\frac{5\pi}{36}\right)\text{Cos}\left(\frac{\pi}{36}\right) + \text{Cos}\left(\frac{5\pi}{36}\right)\text{Sin}\left(\frac{\pi}{36}\right) \\ .7 = \text{Cos}(35^o)\,\text{Cos}(25^o) - \text{Sin}(35^o)\,\text{Sin}(25^o) & .8 = \frac{\text{Tan}\left(\frac{2\pi}{5}\right) - \text{Tan}\left(\frac{\pi}{15}\right)}{1 + \text{Tan}\left(\frac{2\pi}{5}\right)\text{Tan}\left(\frac{\pi}{15}\right)} \\ .9 = 1 - 2\,\text{Sin}\left(\frac{\pi}{8}\right)^2 & .10 = \text{Sin}(42^o)\,\text{Cos}(12^o) - \text{Cos}(42^o)\,\text{Sin}(12^o) \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, \text{D} = 2\pi\right] \\ \left[Cond1 = \left(\text{Sin}(\alpha) = \frac{2}{3}\right), Cond2 = \left(\text{Cos}(\beta) = \frac{1}{2}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \text{Cos}(\alpha) & .2 = \text{Sin}(\beta) \\ .3 = \text{Tan}(\beta) & .4 = \text{Sin}(\alpha + \beta) \\ .5 = \text{Cos}(\beta - \alpha) & .6 = \text{Tan}(\alpha - \beta) \\ .7 = \text{Sin}(2\alpha) & .8 = \text{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, \text{D} = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{-1}{2}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-3}{8}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\beta - \alpha) \\ .5 = \text{Cos}(\alpha - \beta) & .6 = \text{Tan}(\alpha + \beta) \\ .7 = \text{Cos}(2\alpha) & .8 = \text{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [\,Cond = (\text{Cos}(46^o) = 0.695),\, Question = \text{Cos}(23^o)\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [\,Cond = (\text{Cos}(18^o) = 0.951),\, Question = \text{Sin}(9^o)\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.10596

$$No1 = \begin{bmatrix} .1 = \sin\left(\frac{\pi}{12}\right) & .2 = \cos(105^o) \\ .3 = \tan\left(\frac{5\pi}{12}\right) & .4 = \sin((-165)^o) \\ .5 = \cot\left(-\frac{5\pi}{12}\right) & .6 = \sec\left(\frac{19\pi}{12}\right) \\ .7 = \tan(165^o) & .8 = \cos((-105)^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{\tan\left(\frac{11\pi}{36}\right) - \tan\left(\frac{\pi}{18}\right)}{1 + \tan\left(\frac{11\pi}{36}\right)\tan\left(\frac{\pi}{18}\right)} & .2 = \cos(102^o)\cos(12^o) + \sin(102^o)\sin(12^o) \\ .3 = 2\cos(15^o)^2 - 1 & .4 = 1 - 2\sin(22.5^o)^2 \\ .5 = \frac{2\tan(15^o)}{1 - \tan(15^o)^2} & .6 = \cos\left(\frac{\pi}{12}\right)^2 - \sin\left(\frac{\pi}{12}\right)^2 \\ .7 = \cos(78^o)\cos(12^o) - \sin(78^o)\sin(12^o) & .8 = 2\sin\left(\frac{\pi}{8}\right)\cos\left(\frac{\pi}{8}\right) \\ .9 = \sin(80^o)\cos(20^o) - \cos(80^o)\sin(20^o) & .10 = \sin\left(\frac{\pi}{18}\right)\cos\left(\frac{\pi}{9}\right) + \cos\left(\frac{\pi}{18}\right)\sin\left(\frac{\pi}{9}\right) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{1}{6}\right), Cond2 = \left(\sin(\beta) = \frac{1}{3}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\beta - \alpha) \\ .5 = \cos(\alpha - \beta) & .6 = \tan(\alpha + \beta) \\ .7 = \sin(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{-1}{4}\right), Cond2 = \left(\cos(\beta) = \frac{4}{7}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha + \beta) \\ .5 = \cos(\alpha - \beta) & .6 = \tan(\beta - \alpha) \\ .7 = \sin(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\cos(18^o) = 0.951), Question = \cos(9^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(72^o) = 0.309), Question = \sin(36^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.10599

$$No1 = \begin{bmatrix} .1 = \cos(105^o) & .2 = \sin\left(\frac{5\pi}{12}\right) \\ .3 = \tan(15^o) & .4 = \cot(255^o) \\ .5 = \tan\left(\frac{19\pi}{12}\right) & .6 = \sin((-195)^o) \\ .7 = \cos\left(-\frac{17\pi}{12}\right) & .8 = \csc\left(\frac{23\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \cos(15^o)^2 - \sin(15^o)^2 & .2 = \frac{2\tan(22.5^o)}{1-\tan(22.5^o)^2} \\ .3 = \cos\left(\frac{\pi}{9}\right)\cos\left(\frac{7\pi}{18}\right) - \sin\left(\frac{\pi}{9}\right)\sin\left(\frac{7\pi}{18}\right) & .4 = 2\sin\left(\frac{\pi}{8}\right)\cos\left(\frac{\pi}{8}\right) \\ .5 = \frac{\tan\left(\frac{5\pi}{36}\right)+\tan\left(\frac{7\pi}{36}\right)}{1-\tan\left(\frac{5\pi}{36}\right)\tan\left(\frac{7\pi}{36}\right)} & .6 = \sin(25^o)\cos(5^o)+\cos(25^o)\sin(5^o) \\ .7 = \frac{\tan\left(\frac{2\pi}{5}\right)-\tan\left(\frac{\pi}{15}\right)}{1+\tan\left(\frac{2\pi}{5}\right)\tan\left(\frac{\pi}{15}\right)} & .8 = \sin(50^o)\cos(20^o)-\cos(50^o)\sin(20^o) \\ .9 = 2\cos(22.5^o)^2 - 1 & .10 = 1 - 2\sin\left(\frac{\pi}{12}\right)^2 \end{bmatrix}, , \begin{bmatrix} :) \\ :(\\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{5}{6}\right), Cond2 = \left(\cos(\beta) = \frac{-4}{9}\right)\right] \\ \begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha-\beta) \\ .5 = \cos(\alpha+\beta) & .6 = \tan(\beta-\alpha) \\ .7 = \cos(2\alpha) & .8 = \tan(2\beta) \end{bmatrix} \end{bmatrix}, , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{-3}{5}\right), Cond2 = \left(\cos(\beta) = \frac{1}{2}\right)\right] \\ \begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha+\beta) \\ .5 = \cos(\alpha-\beta) & .6 = \tan(\beta-\alpha) \\ .7 = \cos(2\beta) & .8 = \tan(2\alpha) \end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\cos(58^o) = 0.530), Question = \cos(29^o)], , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(86^o) = 0.070), Question = \sin(43^o)], , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.11068

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}(15^o) & .2 = \mathrm{Cos}\left(\frac{5\pi}{12}\right) \\ .3 = \mathrm{Tan}(105^o) & .4 = \mathrm{Sin}\left(-\frac{11\pi}{12}\right) \\ .5 = \mathrm{Sec}(285^o) & .6 = \mathrm{Tan}((-15)^o) \\ .7 = \mathrm{Cos}\left(\frac{13\pi}{12}\right) & .8 = \mathrm{Csc}\left(-\frac{5\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\,\mathrm{Cos}(15^o)^2 - 1 & .2 = \mathrm{Cos}(10^o)\,\mathrm{Cos}(20^o) - \mathrm{Sin}(10^o)\,\mathrm{Sin}(20^o) \\ .3 = \frac{\mathrm{Tan}(33^o) + \mathrm{Tan}(12^o)}{1 - \mathrm{Tan}(33^o)\,\mathrm{Tan}(12^o)} & .4 = \frac{2\,\mathrm{Tan}(15^o)}{1 - \mathrm{Tan}(15^o)^2} \\ .5 = \mathrm{Cos}(60^o)\,\mathrm{Cos}(15^o) + \mathrm{Sin}(60^o)\,\mathrm{Sin}(15^o) & .6 = 1 - 2\,\mathrm{Sin}\left(\frac{\pi}{12}\right)^2 \\ .7 = \mathrm{Sin}\left(\frac{17\pi}{30}\right)\mathrm{Cos}\left(\frac{\pi}{15}\right) - \mathrm{Cos}\left(\frac{17\pi}{30}\right)\mathrm{Sin}\left(\frac{\pi}{15}\right) & .8 = \mathrm{Cos}\left(\frac{\pi}{8}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{8}\right)^2 \\ .9 = \frac{\mathrm{Tan}\left(\frac{7\pi}{30}\right) - \mathrm{Tan}\left(\frac{\pi}{15}\right)}{1 + \mathrm{Tan}\left(\frac{7\pi}{30}\right)\mathrm{Tan}\left(\frac{\pi}{15}\right)} & .10 = 2\,\mathrm{Sin}(22.5^o)\,\mathrm{Cos}(22.5^o) \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{2}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{2}{5}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\alpha - \beta) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{2}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-5}{9}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [\,Cond = (\mathrm{Cos}(10^o) = 0.985),\ Question = \mathrm{Sin}(5^o)\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [\,Cond = (\mathrm{Cos}(32^o) = 0.848),\ Question = \mathrm{Cos}(16^o)\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.11423

$$No1 = \begin{bmatrix} .1 = \text{Cos}(75^o) & .2 = \text{Sin}\left(\frac{\pi}{12}\right) \\ .3 = \text{Tan}(105^o) & .4 = \text{Sin}(345^o) \\ .5 = \text{Tan}\left(\frac{17\,\pi}{12}\right) & .6 = \text{Cot}\left(\frac{11\,\pi}{12}\right) \\ .7 = \text{Cos}((-75)^o) & .8 = \text{Sec}\left(-\frac{7\,\pi}{12}\right) \end{bmatrix},\ No2 = \begin{bmatrix} .1 = \text{Cos}(22.5^o)^2 - \text{Sin}(22.5^o)^2 & .2 = \text{Cos}(105^o)\,\text{Cos}(15^o) + \text{Sin}(105^o)\,\text{Sin}(15^o) \\ .3 = \dfrac{\text{Tan}\left(\frac{2\,\pi}{9}\right) - \text{Tan}\left(\frac{\pi}{18}\right)}{1 + \text{Tan}\left(\frac{2\,\pi}{9}\right)\text{Tan}\left(\frac{\pi}{18}\right)} & .4 = \text{Sin}\left(\frac{17\,\pi}{36}\right)\text{Cos}\left(\frac{5\,\pi}{36}\right) - \text{Cos}\left(\frac{17\,\pi}{36}\right)\text{Sin}\left(\frac{5\,\pi}{36}\right) \\ .5 = 2\,\text{Cos}\left(\frac{\pi}{12}\right)^2 - 1 & .6 = 1 - 2\,\text{Sin}(15^o)^2 \\ .7 = \dfrac{\text{Tan}(5^o) + \text{Tan}(25^o)}{1 - \text{Tan}(5^o)\,\text{Tan}(25^o)} & .8 = \dfrac{2\,\text{Tan}\left(\frac{\pi}{12}\right)}{1 - \text{Tan}\left(\frac{\pi}{12}\right)^2} \\ .9 = \text{Cos}\left(\frac{\pi}{18}\right)\text{Cos}\left(\frac{7\,\pi}{36}\right) - \text{Sin}\left(\frac{\pi}{18}\right)\text{Sin}\left(\frac{7\,\pi}{36}\right) & .10 = 2\,\text{Sin}\left(\frac{\pi}{8}\right)\text{Cos}\left(\frac{\pi}{8}\right) \end{bmatrix},\ ,\ \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\,\pi}{2}, \text{D} = 2\,\pi\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{1}{3}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-5}{9}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\beta) & .4 = \text{Sin}(\alpha + \beta) \\ .5 = \text{Cos}(\alpha - \beta) & .6 = \text{Tan}(\beta - \alpha) \\ .7 = \text{Cos}(2\,\beta) & .8 = \text{Tan}(2\,\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix},\ ,\ No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, \text{D} = \frac{3\,\pi}{2}\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{-1}{2}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-2}{7}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\alpha + \beta) \\ .5 = \text{Cos}(\beta - \alpha) & .6 = \text{Tan}(\alpha - \beta) \\ .7 = \text{Sin}(2\,\alpha) & .8 = \text{Tan}(2\,\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\text{Cos}(12^o) = 0.978), Question = \text{Cos}(6^o)],\ ,\ \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\text{Cos}(84^o) = 0.105), Question = \text{Sin}(42^o)],\ ,\ \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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$$No1 = \begin{bmatrix} .1 = \operatorname{Sin}\left(\frac{7\pi}{12}\right) & .2 = \operatorname{Cos}(75^{o}) \\ .3 = \operatorname{Tan}\left(\frac{\pi}{12}\right) & .4 = \operatorname{Cos}\left(\frac{11\pi}{12}\right) \\ .5 = \operatorname{Cot}(345^{o}) & .6 = \operatorname{Csc}\left(-\frac{17\pi}{12}\right) \\ .7 = \operatorname{Sin}((-195)^{o}) & .8 = \operatorname{Sec}((-285)^{o}) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \operatorname{Cos}\left(\frac{\pi}{12}\right)^2 - \operatorname{Sin}\left(\frac{\pi}{12}\right)^2 & .2 = \operatorname{Sin}(78^{o})\operatorname{Cos}(12^{o}) + \operatorname{Cos}(78^{o})\operatorname{Sin}(12^{o}) \\ .3 = \operatorname{Sin}(105^{o})\operatorname{Cos}(15^{o}) - \operatorname{Cos}(105^{o})\operatorname{Sin}(15^{o}) & .4 = \frac{2\operatorname{Tan}(22.5^{o})}{1 - \operatorname{Tan}(22.5^{o})^2} \\ .5 = 1 - 2\operatorname{Sin}\left(\frac{\pi}{8}\right)^2 & .6 = 2\operatorname{Cos}(22.5^{o})^2 - 1 \\ .7 = \frac{\operatorname{Tan}\left(\frac{5\pi}{36}\right) + \operatorname{Tan}\left(\frac{\pi}{36}\right)}{1 - \operatorname{Tan}\left(\frac{5\pi}{36}\right)\operatorname{Tan}\left(\frac{\pi}{36}\right)} & .8 = \operatorname{Cos}\left(\frac{19\pi}{60}\right)\operatorname{Cos}\left(\frac{\pi}{15}\right) + \operatorname{Sin}\left(\frac{19\pi}{60}\right)\operatorname{Sin}\left(\frac{\pi}{15}\right) \\ .9 = \frac{\operatorname{Tan}(40^{o}) - \operatorname{Tan}(10^{o})}{1 + \operatorname{Tan}(40^{o})\operatorname{Tan}(10^{o})} & .10 = 2\operatorname{Sin}(15^{o})\operatorname{Cos}(15^{o}) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\operatorname{Sin}(\alpha) = \frac{2}{3}\right), Cond2 = \left(\operatorname{Cos}(\beta) = \frac{5}{9}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \operatorname{Cos}(\alpha) & .2 = \operatorname{Sin}(\beta) \\ .3 = \operatorname{Tan}(\alpha) & .4 = \operatorname{Sin}(\beta - \alpha) \\ .5 = \operatorname{Cos}(\alpha - \beta) & .6 = \operatorname{Tan}(\alpha + \beta) \\ .7 = \operatorname{Sin}(2\beta) & .8 = \operatorname{Tan}(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\operatorname{Sin}(\alpha) = \frac{1}{3}\right), Cond2 = \left(\operatorname{Cos}(\beta) = \frac{-5}{8}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \operatorname{Cos}(\alpha) & .2 = \operatorname{Sin}(\beta) \\ .3 = \operatorname{Tan}(\beta) & .4 = \operatorname{Sin}(\beta - \alpha) \\ .5 = \operatorname{Cos}(\alpha + \beta) & .6 = \operatorname{Tan}(\alpha - \beta) \\ .7 = \operatorname{Cos}(2\alpha) & .8 = \operatorname{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\operatorname{Cos}(10^{o}) = 0.985), Question = \operatorname{Cos}(5^{o})], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\operatorname{Cos}(38^{o}) = 0.788), Question = \operatorname{Sin}(19^{o})], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.11466

$$No1 = \begin{bmatrix} .1 = \text{Sin}(75^o) & .2 = \text{Cos}\left(\frac{\pi}{12}\right) \\ .3 = \text{Tan}(105^o) & .4 = \text{Sin}((-165)^o) \\ .5 = \text{Tan}\left(-\frac{\pi}{12}\right) & .6 = \text{Csc}((-195)^o) \\ .7 = \text{Cot}\left(-\frac{19\pi}{12}\right) & .8 = \text{Sec}\left(-\frac{5\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\,\text{Cos}(15^o)^2 - 1 & .2 = \text{Cos}\left(\frac{13\pi}{30}\right)\text{Cos}\left(\frac{\pi}{15}\right) - \text{Sin}\left(\frac{13\pi}{30}\right)\text{Sin}\left(\frac{\pi}{15}\right) \\ .3 = \text{Sin}(57^o)\,\text{Cos}(12^o) - \text{Cos}(57^o)\,\text{Sin}(12^o) & .4 = \text{Cos}\left(\frac{\pi}{8}\right)^2 - \text{Sin}\left(\frac{\pi}{8}\right)^2 \\ .5 = 2\,\text{Sin}(22.5^o)\,\text{Cos}(22.5^o) & .6 = \text{Cos}\left(\frac{7\pi}{18}\right)\text{Cos}\left(\frac{\pi}{18}\right) + \text{Sin}\left(\frac{7\pi}{18}\right)\text{Sin}\left(\frac{\pi}{18}\right) \\ .7 = 1 - 2\,\text{Sin}\left(\frac{\pi}{12}\right)^2 & .8 = \frac{\text{Tan}(42^o) - \text{Tan}(12^o)}{1 + \text{Tan}(42^o)\,\text{Tan}(12^o)} \\ .9 = \frac{2\,\text{Tan}(15^o)}{1 - \text{Tan}(15^o)^2} & .10 = \text{Sin}(25^o)\,\text{Cos}(35^o) + \text{Cos}(25^o)\,\text{Sin}(35^o) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\text{Sin}(\alpha) = \frac{1}{2}\right), Cond2 = \left(\text{Cos}(\beta) = \frac{-1}{6}\right)\right] \\ \left[\begin{bmatrix} .1 = \text{Cos}(\alpha) & .2 = \text{Sin}(\beta) \\ .3 = \text{Tan}(\beta) & .4 = \text{Sin}(\beta - \alpha) \\ .5 = \text{Cos}(\alpha - \beta) & .6 = \text{Tan}(\alpha + \beta) \\ .7 = \text{Cos}(2\alpha) & .8 = \text{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{-3}{4}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-1}{2}\right)\right] \\ \left[\begin{bmatrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\alpha - \beta) \\ .5 = \text{Cos}(\alpha + \beta) & .6 = \text{Tan}(\beta - \alpha) \\ .7 = \text{Sin}(2\alpha) & .8 = \text{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\text{Cos}(48^o) = 0.669), Question = \text{Cos}(24^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\text{Cos}(18^o) = 0.951), Question = \text{Sin}(9^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.11863

$$No1 = \begin{bmatrix} .1 = \cos\left(\frac{5\pi}{12}\right) & .2 = \sin(15^o) \\ .3 = \tan\left(\frac{7\pi}{12}\right) & .4 = \sin(285^o) \\ .5 = \sec\left(\frac{11\pi}{12}\right) & .6 = \tan\left(\frac{17\pi}{12}\right) \\ .7 = \cos((-345)^o) & .8 = \csc\left(-\frac{7\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \sin(40^o)\cos(10^o) - \cos(40^o)\sin(10^o) & .2 = \dfrac{\tan\left(\frac{\pi}{15}\right) + \tan\left(\frac{\pi}{10}\right)}{1 - \tan\left(\frac{\pi}{15}\right)\tan\left(\frac{\pi}{10}\right)} \\ .3 = \dfrac{\tan\left(\frac{7\pi}{18}\right) - \tan\left(\frac{\pi}{18}\right)}{1 + \tan\left(\frac{7\pi}{18}\right)\tan\left(\frac{\pi}{18}\right)} & .4 = \cos(15^o)^2 - \sin(15^o)^2 \\ .5 = \dfrac{2\tan\left(\frac{\pi}{12}\right)}{1 - \tan\left(\frac{\pi}{12}\right)^2} & .6 = \sin(50^o)\cos(10^o) + \cos(50^o)\sin(10^o) \\ .7 = \cos(55^o)\cos(10^o) + \sin(55^o)\sin(10^o) & .8 = 1 - 2\sin(22.5^o)^2 \\ .9 = 2\sin\left(\frac{\pi}{8}\right)\cos\left(\frac{\pi}{8}\right) & .10 = 2\cos\left(\frac{\pi}{12}\right)^2 - 1 \end{bmatrix}, , \begin{bmatrix} \underline{:)} \\ :(\\ [[P\ V\ S\ S]] \\ \& \\ [[M\ a\ t\ h\ @\ M\ U\ T]] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{4}{5}\right), Cond2 = \left(\sin(\beta) = \frac{-3}{8}\right)\right] \\ \left[\left[\begin{matrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\alpha - \beta) \\ .5 = \cos(\beta - \alpha) & .6 = \tan(\alpha + \beta) \\ .7 = \sin(2\alpha) & .8 = \tan(2\beta) \end{matrix}\right]\right] \end{bmatrix}, , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{-2}{5}\right), Cond2 = \left(\sin(\beta) = \frac{-1}{2}\right)\right] \\ \left[\left[\begin{matrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\alpha + \beta) \\ .5 = \cos(\alpha - \beta) & .6 = \tan(\beta - \alpha) \\ .7 = \sin(2\beta) & .8 = \tan(2\alpha) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\cos(72^o) = 0.309), Question = \cos(36^o)], , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(44^o) = 0.719), Question = \sin(22^o)], , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.11967

$$No1 = \begin{bmatrix} .1 = \sin\left(\frac{7\pi}{12}\right) & .2 = \cos(15^o) \\ .3 = \tan(75^o) & .4 = \cot(165^o) \\ .5 = \sec\left(-\frac{7\pi}{12}\right) & .6 = \tan\left(-\frac{23\pi}{12}\right) \\ .7 = \csc((-165)^o) & .8 = \cos(345^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 1 - 2\sin(15^o)^2 & .2 = \frac{\tan(40^o) - \tan(10^o)}{1 + \tan(40^o)\tan(10^o)} \\ .3 = 2\cos\left(\frac{\pi}{12}\right)^2 - 1 & .4 = \cos(80^o)\cos(10^o) - \sin(80^o)\sin(10^o) \\ .5 = \sin\left(\frac{\pi}{15}\right)\cos\left(\frac{\pi}{10}\right) + \cos\left(\frac{\pi}{15}\right)\sin\left(\frac{\pi}{10}\right) & .6 = \sin(80^o)\cos(20^o) - \cos(80^o)\sin(20^o) \\ .7 = \frac{\tan\left(\frac{7\pi}{36}\right) + \tan\left(\frac{\pi}{18}\right)}{1 - \tan\left(\frac{7\pi}{36}\right)\tan\left(\frac{\pi}{18}\right)} & .8 = \frac{2\tan\left(\frac{\pi}{12}\right)}{1 - \tan\left(\frac{\pi}{12}\right)^2} \\ .9 = \cos\left(\frac{\pi}{8}\right)^2 - \sin\left(\frac{\pi}{8}\right)^2 & .10 = 2\sin(22.5^o)\cos(22.5^o) \end{bmatrix}, , \begin{bmatrix} :) \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{5}{8}\right), Cond2 = \left(\sin(\beta) = \frac{-3}{8}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha + \beta) \\ .5 = \cos(\beta - \alpha) & .6 = \tan(\alpha - \beta) \\ .7 = \sin(2\alpha) & .8 = \tan(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}, , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{-2}{3}\right), Cond2 = \left(\sin(\beta) = \frac{3}{8}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\beta - \alpha) \\ .5 = \cos(\alpha - \beta) & .6 = \tan(\alpha + \beta) \\ .7 = \sin(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\cos(40^o) = 0.766), Question = \cos(20^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(86^o) = 0.070), Question = \sin(43^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.13031

$$No1 = \begin{bmatrix} .1 = \sin\left(\frac{\pi}{12}\right) & .2 = \cos(105^o) \\ .3 = \tan(75^o) & .4 = \sec(195^o) \\ .5 = \csc\left(\frac{11\pi}{12}\right) & .6 = \cos\left(-\frac{17\pi}{12}\right) \\ .7 = \sin(285^o) & .8 = \cot((-285)^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \sin\left(\frac{\pi}{18}\right)\cos\left(\frac{5\pi}{18}\right) + \cos\left(\frac{\pi}{18}\right)\sin\left(\frac{5\pi}{18}\right) & .2 = \frac{2\tan\left(\frac{\pi}{8}\right)}{1 - \tan\left(\frac{\pi}{8}\right)^2} \\ .3 = 1 - 2\sin(15^o)^2 & .4 = 2\cos(22.5^o)^2 - 1 \\ .5 = \frac{\tan(40^o) - \tan(10^o)}{1 + \tan(40^o)\tan(10^o)} & .6 = 2\sin\left(\frac{\pi}{8}\right)\cos\left(\frac{\pi}{8}\right) \\ .7 = \sin\left(\frac{7\pi}{18}\right)\cos\left(\frac{\pi}{18}\right) - \cos\left(\frac{7\pi}{18}\right)\sin\left(\frac{\pi}{18}\right) & .8 = \cos(10^o)\cos(20^o) - \sin(10^o)\sin(20^o) \\ .9 = \cos\left(\frac{13\pi}{36}\right)\cos\left(\frac{\pi}{9}\right) + \sin\left(\frac{13\pi}{36}\right)\sin\left(\frac{\pi}{9}\right) & .10 = \cos\left(\frac{\pi}{12}\right)^2 - \sin\left(\frac{\pi}{12}\right)^2 \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{4}{9}\right), Cond2 = \left(\sin(\beta) = \frac{-5}{8}\right)\right] \\ \left[\left[\begin{matrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\beta - \alpha) \\ .5 = \cos(\alpha + \beta) & .6 = \tan(\alpha - \beta) \\ .7 = \cos(2\alpha) & .8 = \tan(2\beta) \end{matrix}\right]\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{1}{2}\right), Cond2 = \left(\cos(\beta) = \frac{2}{3}\right)\right] \\ \left[\left[\begin{matrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\alpha + \beta) \\ .5 = \cos(\beta - \alpha) & .6 = \tan(\alpha - \beta) \\ .7 = \sin(2\alpha) & .8 = \tan(2\beta) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\cos(74^o) = 0.276), Question = \cos(37^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(32^o) = 0.848), Question = \sin(16^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.13093

$$No1 = \begin{bmatrix} .1 = \operatorname{Cos}\left(\frac{5\pi}{12}\right) & .2 = \operatorname{Sin}(105^o) \\ .3 = \operatorname{Tan}(15^o) & .4 = \operatorname{Sin}((-345)^o) \\ .5 = \operatorname{Cos}\left(\frac{23\pi}{12}\right) & .6 = \operatorname{Sec}(195^o) \\ .7 = \operatorname{Csc}\left(-\frac{19\pi}{12}\right) & .8 = \operatorname{Tan}\left(\frac{19\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\operatorname{Sin}\left(\frac{\pi}{8}\right)\operatorname{Cos}\left(\frac{\pi}{8}\right) & .2 = \operatorname{Sin}(18^o)\operatorname{Cos}(12^o) + \operatorname{Cos}(18^o)\operatorname{Sin}(12^o) \\ .3 = 2\operatorname{Cos}\left(\frac{\pi}{12}\right)^2 - 1 & .4 = \frac{\operatorname{Tan}(25^o) + \operatorname{Tan}(20^o)}{1 - \operatorname{Tan}(25^o)\operatorname{Tan}(20^o)} \\ .5 = \frac{\operatorname{Tan}\left(\frac{7\pi}{36}\right) - \operatorname{Tan}\left(\frac{\pi}{36}\right)}{1 + \operatorname{Tan}\left(\frac{7\pi}{36}\right)\operatorname{Tan}\left(\frac{\pi}{36}\right)} & .6 = \operatorname{Cos}\left(\frac{\pi}{18}\right)\operatorname{Cos}\left(\frac{5\pi}{18}\right) - \operatorname{Sin}\left(\frac{\pi}{18}\right)\operatorname{Sin}\left(\frac{5\pi}{18}\right) \\ .7 = \operatorname{Cos}(72^o)\operatorname{Cos}(12^o) + \operatorname{Sin}(72^o)\operatorname{Sin}(12^o) & .8 = \frac{2\operatorname{Tan}(22.5^o)}{1 - \operatorname{Tan}(22.5^o)^2} \\ .9 = 1 - 2\operatorname{Sin}(22.5^o)^2 & .10 = \operatorname{Cos}(15^o)^2 - \operatorname{Sin}(15^o)^2 \end{bmatrix}, , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\operatorname{Cos}(\alpha) = \frac{2}{3}\right), Cond2 = \left(\operatorname{Sin}(\beta) = \frac{-3}{5}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \operatorname{Sin}(\alpha) & .2 = \operatorname{Cos}(\beta) \\ .3 = \operatorname{Tan}(\beta) & .4 = \operatorname{Sin}(\beta - \alpha) \\ .5 = \operatorname{Cos}(\alpha + \beta) & .6 = \operatorname{Tan}(\alpha - \beta) \\ .7 = \operatorname{Cos}(2\beta) & .8 = \operatorname{Tan}(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}, , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\operatorname{Cos}(\alpha) = \frac{-3}{4}\right), Cond2 = \left(\operatorname{Sin}(\beta) = \frac{5}{9}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \operatorname{Sin}(\alpha) & .2 = \operatorname{Cos}(\beta) \\ .3 = \operatorname{Tan}(\alpha) & .4 = \operatorname{Sin}(\alpha + \beta) \\ .5 = \operatorname{Cos}(\alpha - \beta) & .6 = \operatorname{Tan}(\beta - \alpha) \\ .7 = \operatorname{Cos}(2\alpha) & .8 = \operatorname{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\operatorname{Cos}(76^o) = 0.242), Question = \operatorname{Sin}(38^o)], , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\operatorname{Cos}(18^o) = 0.951), Question = \operatorname{Cos}(9^o)], , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.13163

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}(75^{o}) & .2 = \mathrm{Cos}\left(\frac{\pi}{12}\right) \\ .3 = \mathrm{Tan}\left(\frac{7\pi}{12}\right) & .4 = \mathrm{Cot}((-255)^{o}) \\ .5 = \mathrm{Sec}\left(-\frac{13\pi}{12}\right) & .6 = \mathrm{Csc}(195^{o}) \\ .7 = \mathrm{Cos}\left(\frac{19\pi}{12}\right) & .8 = \mathrm{Sin}\left(\frac{11\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{12}\right)^2 & .2 = \frac{\mathrm{Tan}(80^{o}) - \mathrm{Tan}(20^{o})}{1 + \mathrm{Tan}(80^{o})\,\mathrm{Tan}(20^{o})} \\ .3 = 2\,\mathrm{Sin}(15^{o})\,\mathrm{Cos}(15^{o}) & .4 = 2\,\mathrm{Cos}\left(\frac{\pi}{8}\right)^2 - 1 \\ .5 = 1 - 2\,\mathrm{Sin}(22.5^{o})^2 & .6 = \mathrm{Sin}(33^{o})\,\mathrm{Cos}(12^{o}) + \mathrm{Cos}(33^{o})\,\mathrm{Sin}(12^{o}) \\ .7 = \mathrm{Cos}\left(\frac{\pi}{12}\right)\mathrm{Cos}\left(\frac{5\pi}{12}\right) - \mathrm{Sin}\left(\frac{\pi}{12}\right)\mathrm{Sin}\left(\frac{5\pi}{12}\right) & .8 = \mathrm{Sin}(35^{o})\,\mathrm{Cos}(5^{o}) - \mathrm{Cos}(35^{o})\,\mathrm{Sin}(5^{o}) \\ .9 = \frac{\mathrm{Tan}\left(\frac{5\pi}{36}\right) + \mathrm{Tan}\left(\frac{\pi}{36}\right)}{1 - \mathrm{Tan}\left(\frac{5\pi}{36}\right)\mathrm{Tan}\left(\frac{\pi}{36}\right)} & .10 = \frac{2\,\mathrm{Tan}(15^{o})}{1 - \mathrm{Tan}(15^{o})^2} \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, \mathrm{D} = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{5}{6}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-1}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha - \beta) & .6 = \mathrm{Tan}(\alpha + \beta) \\ .7 = \mathrm{Sin}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, \mathrm{D} = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{-5}{8}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-4}{7}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha + \beta) \\ .5 = \mathrm{Cos}(\alpha - \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(78^{o}) = 0.208), Question = \mathrm{Sin}(39^{o})], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(56^{o}) = 0.559), Question = \mathrm{Cos}(28^{o})], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.13403

$$No1 = \begin{bmatrix} .1 = \text{Sin}(75^o) & .2 = \text{Cos}\left(\frac{\pi}{12}\right) \\ .3 = \text{Tan}\left(\frac{7\pi}{12}\right) & .4 = \text{Tan}((-105)^o) \\ .5 = \text{Csc}\left(\frac{17\pi}{12}\right) & .6 = \text{Sin}\left(-\frac{19\pi}{12}\right) \\ .7 = \text{Sec}((-75)^o) & .8 = \text{Cot}\left(-\frac{17\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{\text{Tan}\left(\frac{5\pi}{36}\right) + \text{Tan}\left(\frac{7\pi}{36}\right)}{1 - \text{Tan}\left(\frac{5\pi}{36}\right)\text{Tan}\left(\frac{7\pi}{36}\right)} & .2 = \frac{\text{Tan}(60^o) - \text{Tan}(15^o)}{1 + \text{Tan}(60^o)\,\text{Tan}(15^o)} \\ .3 = 2\,\text{Cos}\left(\frac{\pi}{8}\right)^2 - 1 & .4 = \text{Sin}(10^o)\,\text{Cos}(35^o) + \text{Cos}(10^o)\,\text{Sin}(35^o) \\ .5 = 1 - 2\,\text{Sin}(22.5^o)^2 & .6 = \text{Cos}\left(\frac{5\pi}{9}\right)\text{Cos}\left(\frac{\pi}{18}\right) + \text{Sin}\left(\frac{5\pi}{9}\right)\text{Sin}\left(\frac{\pi}{18}\right) \\ .7 = 2\,\text{Sin}\left(\frac{\pi}{12}\right)\text{Cos}\left(\frac{\pi}{12}\right) & .8 = \text{Cos}\left(\frac{\pi}{18}\right)\text{Cos}\left(\frac{\pi}{9}\right) - \text{Sin}\left(\frac{\pi}{18}\right)\text{Sin}\left(\frac{\pi}{9}\right) \\ .9 = \text{Cos}(15^o)^2 - \text{Sin}(15^o)^2 & .10 = \frac{2\,\text{Tan}(22.5^o)}{1 - \text{Tan}(22.5^o)^2} \end{bmatrix}, \begin{bmatrix} :) \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\text{Sin}(\alpha) = \frac{1}{4}\right), Cond2 = \left(\text{Cos}(\beta) = \frac{2}{3}\right)\right] \\ \left[\left[\begin{matrix} .1 = \text{Cos}(\alpha) & .2 = \text{Sin}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\beta - \alpha) \\ .5 = \text{Cos}(\alpha - \beta) & .6 = \text{Tan}(\alpha + \beta) \\ .7 = \text{Sin}(2\beta) & .8 = \text{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}, \; No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{-5}{8}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-1}{2}\right)\right] \\ \left[\left[\begin{matrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\beta) & .4 = \text{Sin}(\beta - \alpha) \\ .5 = \text{Cos}(\alpha + \beta) & .6 = \text{Tan}(\alpha - \beta) \\ .7 = \text{Sin}(2\beta) & .8 = \text{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\text{Cos}(68^o) = 0.375), Question = \text{Sin}(34^o)], \; , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\text{Cos}(28^o) = 0.883), Question = \text{Cos}(14^o)], \; , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.13459

$$No1 = \begin{bmatrix} .1 = \text{Cos}(105^o) & .2 = \text{Sin}\left(\frac{\pi}{12}\right) \\ .3 = \text{Tan}\left(\frac{5\pi}{12}\right) & .4 = \text{Cos}((-105)^o) \\ .5 = \text{Sec}\left(-\frac{13\pi}{12}\right) & .6 = \text{Cot}\left(\frac{11\pi}{12}\right) \\ .7 = \text{Csc}(345^o) & .8 = \text{Tan}\left(-\frac{5\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 1 - 2\,\text{Sin}\left(\frac{\pi}{8}\right)^2 & .2 = \frac{\text{Tan}(40^o) + \text{Tan}(20^o)}{1 - \text{Tan}(40^o)\,\text{Tan}(20^o)} \\ .3 = 2\,\text{Cos}(15^o)^2 - 1 & .4 = \frac{\text{Tan}(80^o) - \text{Tan}(20^o)}{1 + \text{Tan}(80^o)\,\text{Tan}(20^o)} \\ .5 = \text{Sin}(20^o)\,\text{Cos}(10^o) + \text{Cos}(20^o)\,\text{Sin}(10^o) & .6 = \text{Cos}\left(\frac{\pi}{12}\right)^2 - \text{Sin}\left(\frac{\pi}{12}\right)^2 \\ .7 = \text{Sin}\left(\frac{7\pi}{30}\right)\text{Cos}\left(\frac{\pi}{15}\right) - \text{Cos}\left(\frac{7\pi}{30}\right)\text{Sin}\left(\frac{\pi}{15}\right) & .8 = \text{Cos}\left(\frac{\pi}{9}\right)\text{Cos}\left(\frac{5\pi}{36}\right) - \text{Sin}\left(\frac{\pi}{9}\right)\text{Sin}\left(\frac{5\pi}{36}\right) \\ .9 = 2\,\text{Sin}(22.5^o)\,\text{Cos}(22.5^o) & .10 = \frac{2\,\text{Tan}(22.5^o)}{1 - \text{Tan}(22.5^o)^2} \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{2}{7}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{3}{5}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\alpha - \beta) \\ .5 = \text{Cos}(\beta - \alpha) & .6 = \text{Tan}(\alpha + \beta) \\ .7 = \text{Cos}(2\beta) & .8 = \text{Tan}(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{3\pi}{2}, B = 2\pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{5}{8}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-5}{7}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\alpha - \beta) \\ .5 = \text{Cos}(\beta - \alpha) & .6 = \text{Tan}(\alpha + \beta) \\ .7 = \text{Sin}(2\alpha) & .8 = \text{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\text{Cos}(50^o) = 0.643), Question = \text{Cos}(25^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\text{Cos}(86^o) = 0.070), Question = \text{Sin}(43^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.13581

$$No1 = \begin{bmatrix} .1 = \sin\left(\frac{5\pi}{12}\right) & .2 = \cos(15^\circ) \\ .3 = \tan(105^\circ) & .4 = \sec((-345)^\circ) \\ .5 = \csc\left(-\frac{13\pi}{12}\right) & .6 = \sin(195^\circ) \\ .7 = \cot\left(\frac{19\pi}{12}\right) & .8 = \tan((-105)^\circ) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{2\tan\left(\frac{\pi}{12}\right)}{1-\tan\left(\frac{\pi}{12}\right)^2} & .2 = 1 - 2\sin\left(\frac{\pi}{8}\right)^2 \\ .3 = \sin(40^\circ)\cos(10^\circ) - \cos(40^\circ)\sin(10^\circ) & .4 = \cos(15^\circ)^2 - \sin(15^\circ)^2 \\ .5 = \cos(70^\circ)\cos(10^\circ) + \sin(70^\circ)\sin(10^\circ) & .6 = 2\cos(22.5^\circ)^2 - 1 \\ .7 = \sin\left(\frac{\pi}{12}\right)\cos\left(\frac{5\pi}{12}\right) + \cos\left(\frac{\pi}{12}\right)\sin\left(\frac{5\pi}{12}\right) & .8 = \frac{\tan\left(\frac{\pi}{9}\right)+\tan\left(\frac{\pi}{18}\right)}{1-\tan\left(\frac{\pi}{9}\right)\tan\left(\frac{\pi}{18}\right)} \\ .9 = \frac{\tan\left(\frac{13\pi}{36}\right)-\tan\left(\frac{\pi}{9}\right)}{1+\tan\left(\frac{13\pi}{36}\right)\tan\left(\frac{\pi}{9}\right)} & .10 = 2\sin\left(\frac{\pi}{12}\right)\cos\left(\frac{\pi}{12}\right) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{1}{2}\right), Cond2 = \left(\cos(\beta) = \frac{-4}{9}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha-\beta) \\ .5 = \cos(\beta-\alpha) & .6 = \tan(\alpha+\beta) \\ .7 = \cos(2\alpha) & .8 = \tan(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{1}{2}\right), Cond2 = \left(\cos(\beta) = \frac{1}{4}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\alpha+\beta) \\ .5 = \cos(\alpha-\beta) & .6 = \tan(\beta-\alpha) \\ .7 = \cos(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\cos(34^\circ) = 0.829), Question = \cos(17^\circ)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(74^\circ) = 0.276), Question = \sin(37^\circ)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.13668

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}(105^o) & .2 = \mathrm{Cos}\left(\frac{\pi}{12}\right) \\ .3 = \mathrm{Tan}(75^o) & .4 = \mathrm{Cot}(345^o) \\ .5 = \mathrm{Tan}\left(\frac{13\pi}{12}\right) & .6 = \mathrm{Sec}\left(-\frac{7\pi}{12}\right) \\ .7 = \mathrm{Csc}((-345)^o) & .8 = \mathrm{Sin}\left(-\frac{17\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{2\,\mathrm{Tan}(22.5^o)}{1 - \mathrm{Tan}(22.5^o)^2} & .2 = \mathrm{Cos}\left(\frac{19\pi}{60}\right)\mathrm{Cos}\left(\frac{\pi}{15}\right) + \mathrm{Sin}\left(\frac{19\pi}{60}\right)\mathrm{Sin}\left(\frac{\pi}{15}\right) \\ .3 = \frac{\mathrm{Tan}(20^o) + \mathrm{Tan}(10^o)}{1 - \mathrm{Tan}(20^o)\,\mathrm{Tan}(10^o)} & .4 = 2\,\mathrm{Cos}(22.5^o)^2 - 1 \\ .5 = \mathrm{Cos}(35^o)\,\mathrm{Cos}(10^o) - \mathrm{Sin}(35^o)\,\mathrm{Sin}(10^o) & .6 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{12}\right)^2 \\ .7 = \mathrm{Sin}\left(\frac{\pi}{15}\right)\mathrm{Cos}\left(\frac{4\pi}{15}\right) + \mathrm{Cos}\left(\frac{\pi}{15}\right)\mathrm{Sin}\left(\frac{4\pi}{15}\right) & .8 = 2\,\mathrm{Sin}(15^o)\,\mathrm{Cos}(15^o) \\ .9 = 1 - 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)^2 & .10 = \frac{\mathrm{Tan}(40^o) - \mathrm{Tan}(10^o)}{1 + \mathrm{Tan}(40^o)\,\mathrm{Tan}(10^o)} \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, \mathrm{D} = \pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{6}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-3}{4}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{matrix}\right]\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{3\pi}{2}, \mathrm{D} = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{-2}{5}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{3}{5}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Sin}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(50^o) = 0.643), Question = \mathrm{Cos}(25^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(26^o) = 0.899), Question = \mathrm{Sin}(13^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.13716

$$No1 = \begin{bmatrix} .1 = \operatorname{Cos}\left(\frac{\pi}{12}\right) & .2 = \operatorname{Sin}(75^{o}) \\ .3 = \operatorname{Tan}\left(\frac{7\pi}{12}\right) & .4 = \operatorname{Cos}((-165)^{o}) \\ .5 = \operatorname{Csc}\left(\frac{19\pi}{12}\right) & .6 = \operatorname{Sin}(345^{o}) \\ .7 = \operatorname{Cot}\left(-\frac{5\pi}{12}\right) & .8 = \operatorname{Sec}(165^{o}) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\operatorname{Cos}\left(\frac{\pi}{8}\right)^{2} - 1 & .2 = \frac{\operatorname{Tan}(35^{o}) + \operatorname{Tan}(25^{o})}{1 - \operatorname{Tan}(35^{o})\operatorname{Tan}(25^{o})} \\ .3 = \frac{2\operatorname{Tan}(22.5^{o})}{1 - \operatorname{Tan}(22.5^{o})^{2}} & .4 = 2\operatorname{Sin}(22.5^{o})\operatorname{Cos}(22.5^{o}) \\ .5 = \operatorname{Sin}\left(\frac{11\pi}{36}\right)\operatorname{Cos}\left(\frac{\pi}{18}\right) - \operatorname{Cos}\left(\frac{11\pi}{36}\right)\operatorname{Sin}\left(\frac{\pi}{18}\right) & .6 = \operatorname{Cos}\left(\frac{\pi}{12}\right)^{2} - \operatorname{Sin}\left(\frac{\pi}{12}\right)^{2} \\ .7 = \operatorname{Sin}\left(\frac{\pi}{15}\right)\operatorname{Cos}\left(\frac{11\pi}{60}\right) + \operatorname{Cos}\left(\frac{\pi}{15}\right)\operatorname{Sin}\left(\frac{11\pi}{60}\right) & .8 = \frac{\operatorname{Tan}\left(\frac{7\pi}{30}\right) - \operatorname{Tan}\left(\frac{\pi}{15}\right)}{1 + \operatorname{Tan}\left(\frac{7\pi}{30}\right)\operatorname{Tan}\left(\frac{\pi}{15}\right)} \\ .9 = \operatorname{Cos}(100^{o})\operatorname{Cos}(10^{o}) + \operatorname{Sin}(100^{o})\operatorname{Sin}(10^{o}) & .10 = 1 - 2\operatorname{Sin}(15^{o})^{2} \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\operatorname{Sin}(\alpha) = \frac{1}{2}\right), Cond2 = \left(\operatorname{Cos}(\beta) = \frac{-3}{7}\right)\right] \\ \left[\begin{bmatrix} .1 = \operatorname{Cos}(\alpha) & .2 = \operatorname{Sin}(\beta) \\ .3 = \operatorname{Tan}(\beta) & .4 = \operatorname{Sin}(\alpha - \beta) \\ .5 = \operatorname{Cos}(\alpha + \beta) & .6 = \operatorname{Tan}(\beta - \alpha) \\ .7 = \operatorname{Cos}(2\beta) & .8 = \operatorname{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{3\pi}{2}, B = 2\pi, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\operatorname{Cos}(\alpha) = \frac{2}{7}\right), Cond2 = \left(\operatorname{Sin}(\beta) = \frac{1}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \operatorname{Sin}(\alpha) & .2 = \operatorname{Cos}(\beta) \\ .3 = \operatorname{Tan}(\alpha) & .4 = \operatorname{Sin}(\beta - \alpha) \\ .5 = \operatorname{Cos}(\alpha - \beta) & .6 = \operatorname{Tan}(\alpha + \beta) \\ .7 = \operatorname{Sin}(2\alpha) & .8 = \operatorname{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\operatorname{Cos}(78^{o}) = 0.208), Question = \operatorname{Sin}(39^{o})], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\operatorname{Cos}(38^{o}) = 0.788), Question = \operatorname{Cos}(19^{o})], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.13720

$$No1 = \begin{bmatrix} .1 = \cos(15^o) & .2 = \sin\left(\frac{5\pi}{12}\right) \\ .3 = \tan(105^o) & .4 = \csc((-285)^o) \\ .5 = \sin\left(\frac{19\pi}{12}\right) & .6 = \cot\left(-\frac{17\pi}{12}\right) \\ .7 = \tan(195^o) & .8 = \sec\left(-\frac{5\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\cos\left(\frac{\pi}{8}\right)^2 - 1 & .2 = \cos(30^o)\cos(15^o) - \sin(30^o)\sin(15^o) \\ .3 = \frac{\tan(50^o) - \tan(20^o)}{1 + \tan(50^o)\tan(20^o)} & .4 = 2\sin\left(\frac{\pi}{12}\right)\cos\left(\frac{\pi}{12}\right) \\ .5 = \frac{\tan\left(\frac{\pi}{9}\right) + \tan\left(\frac{2\pi}{9}\right)}{1 - \tan\left(\frac{\pi}{9}\right)\tan\left(\frac{2\pi}{9}\right)} & .6 = 1 - 2\sin(15^o)^2 \\ .7 = \sin(60^o)\cos(15^o) - \cos(60^o)\sin(15^o) & .8 = \cos(22.5^o)^2 - \sin(22.5^o)^2 \\ .9 = \cos\left(\frac{17\pi}{36}\right)\cos\left(\frac{5\pi}{36}\right) + \sin\left(\frac{17\pi}{36}\right)\sin\left(\frac{5\pi}{36}\right) & .10 = \frac{2\tan\left(\frac{\pi}{12}\right)}{1 - \tan\left(\frac{\pi}{12}\right)^2} \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{3}{4}\right), Cond2 = \left(\sin(\beta) = \frac{-3}{8}\right)\right] \\ \left[\begin{bmatrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\alpha - \beta) \\ .5 = \cos(\alpha + \beta) & .6 = \tan(\beta - \alpha) \\ .7 = \cos(2\alpha) & .8 = \tan(2\beta) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{3\pi}{2}, B = 2\pi, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{-5}{7}\right), Cond2 = \left(\cos(\beta) = \frac{-1}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha - \beta) \\ .5 = \cos(\alpha + \beta) & .6 = \tan(\beta - \alpha) \\ .7 = \sin(2\alpha) & .8 = \tan(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\cos(56^o) = 0.559), Question = \cos(28^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(14^o) = 0.970), Question = \sin(7^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.14307

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}\left(\frac{5\pi}{12}\right) & .2 = \mathrm{Cos}(105^o) \\ .3 = \mathrm{Tan}\left(\frac{\pi}{12}\right) & .4 = \mathrm{Cot}((-255)^o) \\ .5 = \mathrm{Tan}\left(\frac{11\pi}{12}\right) & .6 = \mathrm{Csc}(195^o) \\ .7 = \mathrm{Cos}\left(-\frac{\pi}{12}\right) & .8 = \mathrm{Sec}((-345)^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 1 - 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)^2 & .2 = \mathrm{Sin}\left(\frac{\pi}{15}\right)\mathrm{Cos}\left(\frac{13\pi}{30}\right) + \mathrm{Cos}\left(\frac{\pi}{15}\right)\mathrm{Sin}\left(\frac{13\pi}{30}\right) \\ .3 = \mathrm{Cos}\left(\frac{2\pi}{9}\right)\mathrm{Cos}\left(\frac{\pi}{18}\right) + \mathrm{Sin}\left(\frac{2\pi}{9}\right)\mathrm{Sin}\left(\frac{\pi}{18}\right) & .4 = \frac{\mathrm{Tan}(57^o) - \mathrm{Tan}(12^o)}{1 + \mathrm{Tan}(57^o)\,\mathrm{Tan}(12^o)} \\ .5 = 2\,\mathrm{Cos}(15^o)^2 - 1 & .6 = \frac{2\,\mathrm{Tan}\left(\frac{\pi}{8}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{8}\right)^2} \\ .7 = \mathrm{Sin}(105^o)\,\mathrm{Cos}(15^o) - \mathrm{Cos}(105^o)\,\mathrm{Sin}(15^o) & .8 = \mathrm{Cos}(48^o)\,\mathrm{Cos}(12^o) - \mathrm{Sin}(48^o)\,\mathrm{Sin}(12^o) \\ .9 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{12}\right)^2 & .10 = 2\,\mathrm{Sin}(22.5^o)\,\mathrm{Cos}(22.5^o) \end{bmatrix}, \begin{bmatrix} \underline{:)} \\ :(\\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{2}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{2}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha+\beta) \\ .5 = \mathrm{Cos}(\alpha-\beta) & .6 = \mathrm{Tan}(\beta-\alpha) \\ .7 = \mathrm{Cos}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}, No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{-1}{2}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{5}{6}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha+\beta) \\ .5 = \mathrm{Cos}(\beta-\alpha) & .6 = \mathrm{Tan}(\alpha-\beta) \\ .7 = \mathrm{Cos}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(82^o) = 0.139), Question = \mathrm{Cos}(41^o)], \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(50^o) = 0.643), Question = \mathrm{Sin}(25^o)], \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.14598

$$No1 = \begin{bmatrix} .1 = \mathrm{Cos}\left(\frac{5\pi}{12}\right) & .2 = \mathrm{Sin}(15^o) \\ .3 = \mathrm{Tan}\left(\frac{7\pi}{12}\right) & .4 = \mathrm{Cos}((-165)^o) \\ .5 = \mathrm{Sec}\left(-\frac{19\pi}{12}\right) & .6 = \mathrm{Tan}((-195)^o) \\ .7 = \mathrm{Cot}\left(\frac{23\pi}{12}\right) & .8 = \mathrm{Sin}((-75)^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{\mathrm{Tan}\left(\frac{11\pi}{36}\right) - \mathrm{Tan}\left(\frac{\pi}{18}\right)}{1 + \mathrm{Tan}\left(\frac{11\pi}{36}\right)\mathrm{Tan}\left(\frac{\pi}{18}\right)} & .2 = \mathrm{Sin}\left(\frac{5\pi}{36}\right)\mathrm{Cos}\left(\frac{\pi}{9}\right) + \mathrm{Cos}\left(\frac{5\pi}{36}\right)\mathrm{Sin}\left(\frac{\pi}{9}\right) \\ .3 = 1 - 2\,\mathrm{Sin}(15^o)^2 & .4 = \frac{\mathrm{Tan}(40^o) + \mathrm{Tan}(20^o)}{1 - \mathrm{Tan}(40^o)\,\mathrm{Tan}(20^o)} \\ .5 = 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)\mathrm{Cos}\left(\frac{\pi}{8}\right) & .6 = \mathrm{Sin}\left(\frac{5\pi}{9}\right)\mathrm{Cos}\left(\frac{\pi}{18}\right) - \mathrm{Cos}\left(\frac{5\pi}{9}\right)\mathrm{Sin}\left(\frac{\pi}{18}\right) \\ .7 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{12}\right)^2 & .8 = \mathrm{Cos}(72^o)\,\mathrm{Cos}(12^o) + \mathrm{Sin}(72^o)\,\mathrm{Sin}(12^o) \\ .9 = \frac{2\,\mathrm{Tan}(22.5^o)}{1 - \mathrm{Tan}(22.5^o)^2} & .10 = 2\,\mathrm{Cos}(22.5^o)^2 - 1 \end{bmatrix}, , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{2}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-1}{4}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\alpha - \beta) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{matrix}\right]\right] \end{bmatrix}, , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{-2}{5}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{2}{7}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Sin}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(42^o) = 0.743), Question = \mathrm{Sin}(21^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(86^o) = 0.070), Question = \mathrm{Cos}(43^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.14624

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}(105^o) & .2 = \mathrm{Cos}\left(\frac{5\pi}{12}\right) \\ .3 = \mathrm{Tan}(15^o) & .4 = \mathrm{Cot}((-285)^o) \\ .5 = \mathrm{Tan}\left(-\frac{\pi}{12}\right) & .6 = \mathrm{Sec}(255^o) \\ .7 = \mathrm{Sin}\left(-\frac{17\pi}{12}\right) & .8 = \mathrm{Csc}\left(\frac{19\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{\mathrm{Tan}(55^o) - \mathrm{Tan}(10^o)}{1 + \mathrm{Tan}(55^o)\,\mathrm{Tan}(10^o)} & .2 = \mathrm{Cos}\left(\frac{11\pi}{18}\right)\mathrm{Cos}\left(\frac{\pi}{9}\right) + \mathrm{Sin}\left(\frac{11\pi}{18}\right)\mathrm{Sin}\left(\frac{\pi}{9}\right) \\ .3 = 1 - 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)^2 & .4 = 2\,\mathrm{Cos}(22.5^o)^2 - 1 \\ .5 = \frac{2\,\mathrm{Tan}\left(\frac{\pi}{12}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{12}\right)^2} & .6 = \mathrm{Cos}(18^o)\,\mathrm{Cos}(12^o) - \mathrm{Sin}(18^o)\,\mathrm{Sin}(12^o) \\ .7 = \frac{\mathrm{Tan}(33^o) + \mathrm{Tan}(12^o)}{1 - \mathrm{Tan}(33^o)\,\mathrm{Tan}(12^o)} & .8 = \mathrm{Sin}\left(\frac{5\pi}{36}\right)\mathrm{Cos}\left(\frac{7\pi}{36}\right) + \mathrm{Cos}\left(\frac{5\pi}{36}\right)\mathrm{Sin}\left(\frac{7\pi}{36}\right) \\ .9 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{12}\right)^2 & .10 = 2\,\mathrm{Sin}(15^o)\,\mathrm{Cos}(15^o) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{5}{9}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-1}{3}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha + \beta) \\ .5 = \mathrm{Cos}(\alpha - \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Sin}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{5}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-2}{3}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha + \beta) \\ .5 = \mathrm{Cos}(\alpha - \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(22^o) = 0.927), Question = \mathrm{Cos}(11^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(80^o) = 0.174), Question = \mathrm{Sin}(40^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.14641

$$No1 = \begin{bmatrix} .1 = \mathrm{Cos}(75^o) & .2 = \mathrm{Sin}\left(\frac{\pi}{12}\right) \\ .3 = \mathrm{Tan}(105^o) & .4 = \mathrm{Cos}\left(\frac{13\pi}{12}\right) \\ .5 = \mathrm{Sin}((-345)^o) & .6 = \mathrm{Csc}\left(-\frac{17\pi}{12}\right) \\ .7 = \mathrm{Tan}(285^o) & .8 = \mathrm{Sec}\left(-\frac{19\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{12}\right)^2 & .2 = \frac{2\,\mathrm{Tan}(15^o)}{1 - \mathrm{Tan}(15^o)^2} \\ .3 = 2\,\mathrm{Cos}(22.5^o)^2 - 1 & .4 = \mathrm{Cos}(20^o)\,\mathrm{Cos}(25^o) - \mathrm{Sin}(20^o)\,\mathrm{Sin}(25^o) \\ .5 = 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)\mathrm{Cos}\left(\frac{\pi}{8}\right) & .6 = \frac{\mathrm{Tan}(5^o) + \mathrm{Tan}(25^o)}{1 - \mathrm{Tan}(5^o)\,\mathrm{Tan}(25^o)} \\ .7 = 1 - 2\,\mathrm{Sin}(15^o)^2 & .8 = \mathrm{Sin}\left(\frac{2\pi}{5}\right)\mathrm{Cos}\left(\frac{\pi}{15}\right) - \mathrm{Cos}\left(\frac{2\pi}{5}\right)\mathrm{Sin}\left(\frac{\pi}{15}\right) \\ .9 = \mathrm{Cos}(42^o)\,\mathrm{Cos}(12^o) + \mathrm{Sin}(42^o)\,\mathrm{Sin}(12^o) & .10 = \frac{\mathrm{Tan}\left(\frac{11\pi}{36}\right) - \mathrm{Tan}\left(\frac{\pi}{18}\right)}{1 + \mathrm{Tan}\left(\frac{11\pi}{36}\right)\mathrm{Tan}\left(\frac{\pi}{18}\right)} \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{2}{5}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-5}{6}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha + \beta) \\ .5 = \mathrm{Cos}(\alpha - \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{-1}{2}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-3}{8}\right)\right] \\ \left[\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [\,Cond = (\mathrm{Cos}(70^o) = 0.342),\ Question = \mathrm{Sin}(35^o)\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [\,Cond = (\mathrm{Cos}(46^o) = 0.695),\ Question = \mathrm{Cos}(23^o)\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No1 = \begin{bmatrix} .1 = \sin\left(\frac{5\pi}{12}\right) & .2 = \cos(15^o) \\ .3 = \tan\left(\frac{7\pi}{12}\right) & .4 = \tan(345^o) \\ .5 = \csc\left(-\frac{\pi}{12}\right) & .6 = \sec(165^o) \\ .7 = \sin\left(\frac{17\pi}{12}\right) & .8 = \cot\left(-\frac{7\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\cos(15^o)^2 - 1 & .2 = 2\sin(22.5^o)\cos(22.5^o) \\ .3 = \dfrac{\tan\left(\frac{5\pi}{36}\right) + \tan\left(\frac{7\pi}{36}\right)}{1 - \tan\left(\frac{5\pi}{36}\right)\tan\left(\frac{7\pi}{36}\right)} & .4 = 1 - 2\sin\left(\frac{\pi}{8}\right)^2 \\ .5 = \dfrac{\tan\left(\frac{13\pi}{36}\right) - \tan\left(\frac{\pi}{9}\right)}{1 + \tan\left(\frac{13\pi}{36}\right)\tan\left(\frac{\pi}{9}\right)} & .6 = \dfrac{2\tan(15^o)}{1 - \tan(15^o)^2} \\ .7 = \cos(40^o)\cos(10^o) + \sin(40^o)\sin(10^o) & .8 = \sin\left(\frac{\pi}{15}\right)\cos\left(\frac{\pi}{10}\right) + \cos\left(\frac{\pi}{15}\right)\sin\left(\frac{\pi}{10}\right) \\ .9 = \cos\left(\frac{\pi}{12}\right)^2 - \sin\left(\frac{\pi}{12}\right)^2 & .10 = \cos(75^o)\cos(15^o) - \sin(75^o)\sin(15^o) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{2}{3}\right), Cond2 = \left(\sin(\beta) = \frac{-1}{5}\right)\right] \\ \left[\begin{bmatrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\beta) & .4 = \sin(\alpha + \beta) \\ .5 = \cos(\beta - \alpha) & .6 = \tan(\alpha - \beta) \\ .7 = \cos(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{-1}{2}\right), Cond2 = \left(\sin(\beta) = \frac{-1}{4}\right)\right] \\ \left[\begin{bmatrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha - \beta) \\ .5 = \cos(\beta - \alpha) & .6 = \tan(\alpha + \beta) \\ .7 = \cos(2\alpha) & .8 = \tan(2\beta) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\cos(20^o) = 0.940), Question = \sin(10^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(42^o) = 0.743), Question = \cos(21^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No1 = \begin{bmatrix} .1 = \cos\left(\frac{7\pi}{12}\right) & .2 = \sin(75^o) \\ .3 = \tan(15^o) & .4 = \csc((-255)^o) \\ .5 = \sec\left(-\frac{7\pi}{12}\right) & .6 = \cot\left(\frac{13\pi}{12}\right) \\ .7 = \cos(165^o) & .8 = \tan((-195)^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\sin(22.5^o)\cos(22.5^o) & .2 = 2\cos\left(\frac{\pi}{8}\right)^2 - 1 \\ .3 = \dfrac{\tan\left(\frac{7\pi}{36}\right) - \tan\left(\frac{\pi}{36}\right)}{1 + \tan\left(\frac{7\pi}{36}\right)\tan\left(\frac{\pi}{36}\right)} & .4 = 1 - 2\sin\left(\frac{\pi}{12}\right)^2 \\ .5 = \sin\left(\frac{5\pi}{36}\right)\cos\left(\frac{\pi}{9}\right) + \cos\left(\frac{5\pi}{36}\right)\sin\left(\frac{\pi}{9}\right) & .6 = \sin(55^o)\cos(10^o) - \cos(55^o)\sin(10^o) \\ .7 = \cos(15^o)^2 - \sin(15^o)^2 & .8 = \cos(10^o)\cos(50^o) - \sin(10^o)\sin(50^o) \\ .9 = \dfrac{\tan\left(\frac{5\pi}{36}\right) + \tan\left(\frac{\pi}{36}\right)}{1 - \tan\left(\frac{5\pi}{36}\right)\tan\left(\frac{\pi}{36}\right)} & .10 = \dfrac{2\tan\left(\frac{\pi}{8}\right)}{1 - \tan\left(\frac{\pi}{8}\right)^2} \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ [[P, V, S, S]] \\ \& \\ [[M, a, t, h, @, M, U, T]] \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\cos(\alpha) = \frac{1}{2}\right), Cond2 = \left(\sin(\beta) = \frac{-2}{3}\right)\right] \\ \left[\begin{bmatrix} .1 = \sin(\alpha) & .2 = \cos(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha+\beta) \\ .5 = \cos(\alpha-\beta) & .6 = \tan(\beta-\alpha) \\ .7 = \cos(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\sin(\alpha) = \frac{-1}{3}\right), Cond2 = \left(\cos(\beta) = \frac{-1}{2}\right)\right] \\ \left[\begin{bmatrix} .1 = \cos(\alpha) & .2 = \sin(\beta) \\ .3 = \tan(\alpha) & .4 = \sin(\alpha+\beta) \\ .5 = \cos(\beta-\alpha) & .6 = \tan(\alpha-\beta) \\ .7 = \cos(2\beta) & .8 = \tan(2\alpha) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\cos(74^o) = 0.276), Question = \sin(37^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\cos(40^o) = 0.766), Question = \cos(20^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.14703

$$No1 = \begin{bmatrix} .1 = \mathrm{Cos}(105^{o}) & .2 = \mathrm{Sin}\left(\frac{\pi}{12}\right) \\ .3 = \mathrm{Tan}\left(\frac{5\pi}{12}\right) & .4 = \mathrm{Sec}((-165)^{o}) \\ .5 = \mathrm{Sin}\left(-\frac{7\pi}{12}\right) & .6 = \mathrm{Csc}((-285)^{o}) \\ .7 = \mathrm{Cot}\left(-\frac{13\pi}{12}\right) & .8 = \mathrm{Tan}\left(-\frac{\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \mathrm{Cos}(110^{o})\,\mathrm{Cos}(20^{o}) + \mathrm{Sin}(110^{o})\,\mathrm{Sin}(20^{o}) & .2 = \mathrm{Cos}\left(\frac{\pi}{18}\right)\mathrm{Cos}\left(\frac{4\pi}{9}\right) - \mathrm{Sin}\left(\frac{\pi}{18}\right)\mathrm{Sin}\left(\frac{4\pi}{9}\right) \\ .3 = \mathrm{Sin}(40^{o})\,\mathrm{Cos}(10^{o}) - \mathrm{Cos}(40^{o})\,\mathrm{Sin}(10^{o}) & .4 = 2\,\mathrm{Cos}(22.5^{o})^{2} - 1 \\ .5 = \dfrac{\mathrm{Tan}\left(\frac{\pi}{9}\right) + \mathrm{Tan}\left(\frac{5\pi}{36}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{9}\right)\mathrm{Tan}\left(\frac{5\pi}{36}\right)} & .6 = \mathrm{Sin}(50^{o})\,\mathrm{Cos}(10^{o}) + \mathrm{Cos}(50^{o})\,\mathrm{Sin}(10^{o}) \\ .7 = 2\,\mathrm{Sin}(15^{o})\,\mathrm{Cos}(15^{o}) & .8 = 1 - 2\,\mathrm{Sin}\left(\frac{\pi}{8}\right)^{2} \\ .9 = \dfrac{2\,\mathrm{Tan}(22.5^{o})}{1 - \mathrm{Tan}(22.5^{o})^{2}} & .10 = \mathrm{Cos}\left(\frac{\pi}{12}\right)^{2} - \mathrm{Sin}\left(\frac{\pi}{12}\right)^{2} \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, \mathrm{D} = \pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{3}{5}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{3}{7}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\beta - \alpha) & .6 = \mathrm{Tan}(\alpha + \beta) \\ .7 = \mathrm{Cos}(2\,\alpha) & .8 = \mathrm{Tan}(2\,\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{3\pi}{2}, B = 2\pi, C = \pi, \mathrm{D} = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{-1}{3}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-2}{5}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Sin}(2\,\beta) & .8 = \mathrm{Tan}(2\,\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [\,Cond = (\mathrm{Cos}(78^{o}) = 0.208),\ Question = \mathrm{Sin}(39^{o})\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [\,Cond = (\mathrm{Cos}(50^{o}) = 0.643),\ Question = \mathrm{Cos}(25^{o})\,], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.14714

$$No1 = \begin{bmatrix} .1 = \text{Cos}\left(\frac{\pi}{12}\right) & .2 = \text{Sin}(75^o) \\ .3 = \text{Tan}\left(\frac{7\pi}{12}\right) & .4 = \text{Sin}(285^o) \\ .5 = \text{Csc}\left(-\frac{5\pi}{12}\right) & .6 = \text{Tan}\left(\frac{17\pi}{12}\right) \\ .7 = \text{Sec}(165^o) & .8 = \text{Cot}\left(\frac{23\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\,\text{Sin}\left(\frac{\pi}{12}\right)\text{Cos}\left(\frac{\pi}{12}\right) & .2 = \text{Cos}(15^o)^2 - \text{Sin}(15^o)^2 \\ .3 = \text{Cos}(80^o)\,\text{Cos}(10^o) - \text{Sin}(80^o)\,\text{Sin}(10^o) & .4 = \frac{\text{Tan}\left(\frac{2\pi}{5}\right) - \text{Tan}\left(\frac{\pi}{15}\right)}{1 + \text{Tan}\left(\frac{2\pi}{5}\right)\text{Tan}\left(\frac{\pi}{15}\right)} \\ .5 = \frac{\text{Tan}\left(\frac{4\pi}{15}\right) + \text{Tan}\left(\frac{\pi}{15}\right)}{1 - \text{Tan}\left(\frac{4\pi}{15}\right)\text{Tan}\left(\frac{\pi}{15}\right)} & .6 = \frac{2\,\text{Tan}\left(\frac{\pi}{8}\right)}{1 - \text{Tan}\left(\frac{\pi}{8}\right)^2} \\ .7 = \text{Sin}(65^o)\,\text{Cos}(20^o) - \text{Cos}(65^o)\,\text{Sin}(20^o) & .8 = 1 - 2\,\text{Sin}\left(\frac{\pi}{8}\right)^2 \\ .9 = \text{Sin}\left(\frac{\pi}{18}\right)\text{Cos}\left(\frac{\pi}{9}\right) + \text{Cos}\left(\frac{\pi}{18}\right)\text{Sin}\left(\frac{\pi}{9}\right) & .10 = 2\,\text{Cos}(22.5^o)^2 - 1 \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\text{Sin}(\alpha) = \frac{1}{3}\right), Cond2 = \left(\text{Cos}(\beta) = \frac{-5}{7}\right)\right] \\ \left[\begin{bmatrix} .1 = \text{Cos}(\alpha) & .2 = \text{Sin}(\beta) \\ .3 = \text{Tan}(\alpha) & .4 = \text{Sin}(\alpha + \beta) \\ .5 = \text{Cos}(\beta - \alpha) & .6 = \text{Tan}(\alpha - \beta) \\ .7 = \text{Cos}(2\alpha) & .8 = \text{Tan}(2\beta) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{3\pi}{2}, B = 2\pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\text{Sin}(\alpha) = \frac{-1}{6}\right), Cond2 = \left(\text{Cos}(\beta) = \frac{-3}{7}\right)\right] \\ \left[\begin{bmatrix} .1 = \text{Cos}(\alpha) & .2 = \text{Sin}(\beta) \\ .3 = \text{Tan}(\beta) & .4 = \text{Sin}(\beta - \alpha) \\ .5 = \text{Cos}(\alpha - \beta) & .6 = \text{Tan}(\alpha + \beta) \\ .7 = \text{Cos}(2\beta) & .8 = \text{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\text{Cos}(32^o) = 0.848), Question = \text{Cos}(16^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\text{Cos}(56^o) = 0.559), Question = \text{Sin}(28^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.14746

$$No1 = \begin{bmatrix} .1 = \mathrm{Cos}(15^{o}) & .2 = \mathrm{Sin}\left(\frac{7\pi}{12}\right) \\ .3 = \mathrm{Tan}\left(\frac{5\pi}{12}\right) & .4 = \mathrm{Sin}((-15)^{o}) \\ .5 = \mathrm{Tan}\left(-\frac{13\pi}{12}\right) & .6 = \mathrm{Cot}\left(-\frac{23\pi}{12}\right) \\ .7 = \mathrm{Csc}(285^{o}) & .8 = \mathrm{Cos}((-285)^{o}) \end{bmatrix}, No2 = \begin{bmatrix} .1 = 2\,\mathrm{Sin}(22.5^{o})\,\mathrm{Cos}(22.5^{o}) & .2 = \dfrac{\mathrm{Tan}\left(\frac{\pi}{15}\right) + \mathrm{Tan}\left(\frac{\pi}{10}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{15}\right)\mathrm{Tan}\left(\frac{\pi}{10}\right)} \\ .3 = \mathrm{Sin}(25^{o})\,\mathrm{Cos}(35^{o}) + \mathrm{Cos}(25^{o})\,\mathrm{Sin}(35^{o}) & .4 = 1 - 2\,\mathrm{Sin}\left(\frac{\pi}{12}\right)^{2} \\ .5 = \dfrac{\mathrm{Tan}(50^{o}) - \mathrm{Tan}(20^{o})}{1 + \mathrm{Tan}(50^{o})\,\mathrm{Tan}(20^{o})} & .6 = 2\,\mathrm{Cos}\left(\frac{\pi}{8}\right)^{2} - 1 \\ .7 = \mathrm{Cos}(15^{o})^{2} - \mathrm{Sin}(15^{o})^{2} & .8 = \mathrm{Cos}\left(\frac{17\pi}{36}\right)\mathrm{Cos}\left(\frac{5\pi}{36}\right) + \mathrm{Sin}\left(\frac{17\pi}{36}\right)\mathrm{Sin}\left(\frac{5\pi}{36}\right) \\ .9 = \mathrm{Cos}\left(\frac{\pi}{9}\right)\mathrm{Cos}\left(\frac{5\pi}{36}\right) - \mathrm{Sin}\left(\frac{\pi}{9}\right)\mathrm{Sin}\left(\frac{5\pi}{36}\right) & .10 = \dfrac{2\,\mathrm{Tan}\left(\frac{\pi}{12}\right)}{1 - \mathrm{Tan}\left(\frac{\pi}{12}\right)^{2}} \end{bmatrix}, \quad , \begin{bmatrix} :) \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, \mathrm{D} = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{4}{7}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-5}{7}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\beta - \alpha) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\alpha - \beta) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, \mathrm{D} = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{2}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-3}{7}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(44^{o}) = 0.719), Question = \mathrm{Sin}(22^{o})], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(72^{o}) = 0.309), Question = \mathrm{Cos}(36^{o})], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.15000

$$No1 = \begin{bmatrix} .1 = \operatorname{Sin}\left(\frac{5\pi}{12}\right) & .2 = \operatorname{Cos}(15^o) \\ .3 = \operatorname{Tan}\left(\frac{7\pi}{12}\right) & .4 = \operatorname{Cos}(285^o) \\ .5 = \operatorname{Sec}\left(-\frac{19\pi}{12}\right) & .6 = \operatorname{Tan}((-165)^o) \\ .7 = \operatorname{Cot}\left(-\frac{13\pi}{12}\right) & .8 = \operatorname{Sin}\left(-\frac{17\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \operatorname{Sin}(65^o)\operatorname{Cos}(20^o) - \operatorname{Cos}(65^o)\operatorname{Sin}(20^o) & .2 = \operatorname{Sin}\left(\frac{\pi}{12}\right)\operatorname{Cos}\left(\frac{5\pi}{12}\right) + \operatorname{Cos}\left(\frac{\pi}{12}\right)\operatorname{Sin}\left(\frac{5\pi}{12}\right) \\ .3 = 2\operatorname{Cos}(15^o)^2 - 1 & .4 = \frac{2\operatorname{Tan}(22.5^o)}{1 - \operatorname{Tan}(22.5^o)^2} \\ .5 = \frac{\operatorname{Tan}\left(\frac{11\pi}{60}\right) + \operatorname{Tan}\left(\frac{\pi}{15}\right)}{1 - \operatorname{Tan}\left(\frac{11\pi}{60}\right)\operatorname{Tan}\left(\frac{\pi}{15}\right)} & .6 = \operatorname{Cos}\left(\frac{\pi}{12}\right)^2 - \operatorname{Sin}\left(\frac{\pi}{12}\right)^2 \\ .7 = \frac{\operatorname{Tan}(70^o) - \operatorname{Tan}(10^o)}{1 + \operatorname{Tan}(70^o)\operatorname{Tan}(10^o)} & .8 = 2\operatorname{Sin}\left(\frac{\pi}{8}\right)\operatorname{Cos}\left(\frac{\pi}{8}\right) \\ .9 = 1 - 2\operatorname{Sin}(22.5^o)^2 & .10 = \operatorname{Cos}\left(\frac{7\pi}{30}\right)\operatorname{Cos}\left(\frac{\pi}{15}\right) + \operatorname{Sin}\left(\frac{7\pi}{30}\right)\operatorname{Sin}\left(\frac{\pi}{15}\right) \end{bmatrix}, \quad , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\operatorname{Sin}(\alpha) = \frac{2}{5}\right), Cond2 = \left(\operatorname{Cos}(\beta) = \frac{-1}{2}\right)\right] \\ \left[\begin{bmatrix} .1 = \operatorname{Cos}(\alpha) & .2 = \operatorname{Sin}(\beta) \\ .3 = \operatorname{Tan}(\beta) & .4 = \operatorname{Sin}(\alpha - \beta) \\ .5 = \operatorname{Cos}(\alpha + \beta) & .6 = \operatorname{Tan}(\beta - \alpha) \\ .7 = \operatorname{Sin}(2\beta) & .8 = \operatorname{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\operatorname{Cos}(\alpha) = \frac{-2}{3}\right), Cond2 = \left(\operatorname{Sin}(\beta) = \frac{-2}{5}\right)\right] \\ \left[\begin{bmatrix} .1 = \operatorname{Sin}(\alpha) & .2 = \operatorname{Cos}(\beta) \\ .3 = \operatorname{Tan}(\beta) & .4 = \operatorname{Sin}(\beta - \alpha) \\ .5 = \operatorname{Cos}(\alpha - \beta) & .6 = \operatorname{Tan}(\alpha + \beta) \\ .7 = \operatorname{Cos}(2\beta) & .8 = \operatorname{Tan}(2\alpha) \end{bmatrix}\right] \end{bmatrix}$$

$$No5 = [Cond = (\operatorname{Cos}(8^o) = 0.990), Question = \operatorname{Cos}(4^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\operatorname{Cos}(70^o) = 0.342), Question = \operatorname{Sin}(35^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

TrigonometryExercise4 for No.15012

$$No1 = \begin{bmatrix} .1 = \mathrm{Cos}(105^o) & .2 = \mathrm{Sin}\left(\frac{\pi}{12}\right) \\ .3 = \mathrm{Tan}\left(\frac{5\pi}{12}\right) & .4 = \mathrm{Sec}\left(\frac{17\pi}{12}\right) \\ .5 = \mathrm{Cos}((-195)^o) & .6 = \mathrm{Tan}\left(-\frac{7\pi}{12}\right) \\ .7 = \mathrm{Cot}((-75)^o) & .8 = \mathrm{Sin}\left(-\frac{23\pi}{12}\right) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \frac{2\,\mathrm{Tan}(22.5^o)}{1-\mathrm{Tan}(22.5^o)^2} & .2 = \mathrm{Cos}(65^o)\,\mathrm{Cos}(20^o) + \mathrm{Sin}(65^o)\,\mathrm{Sin}(20^o) \\ .3 = \mathrm{Cos}(15^o)^2 - \mathrm{Sin}(15^o)^2 & .4 = \frac{\mathrm{Tan}\left(\frac{2\pi}{9}\right) - \mathrm{Tan}\left(\frac{\pi}{18}\right)}{1+\mathrm{Tan}\left(\frac{2\pi}{9}\right)\mathrm{Tan}\left(\frac{\pi}{18}\right)} \\ .5 = 1 - 2\,\mathrm{Sin}\left(\frac{\pi}{12}\right)^2 & .6 = 2\,\mathrm{Sin}(22.5^o)\,\mathrm{Cos}(22.5^o) \\ .7 = \mathrm{Sin}\left(\frac{5\pi}{36}\right)\mathrm{Cos}\left(\frac{\pi}{9}\right) + \mathrm{Cos}\left(\frac{5\pi}{36}\right)\mathrm{Sin}\left(\frac{\pi}{9}\right) & .8 = \frac{\mathrm{Tan}\left(\frac{5\pi}{36}\right) + \mathrm{Tan}\left(\frac{\pi}{36}\right)}{1-\mathrm{Tan}\left(\frac{5\pi}{36}\right)\mathrm{Tan}\left(\frac{\pi}{36}\right)} \\ .9 = 2\,\mathrm{Cos}\left(\frac{\pi}{8}\right)^2 - 1 & .10 = \mathrm{Sin}(105^o)\,\mathrm{Cos}(15^o) - \mathrm{Cos}(105^o)\,\mathrm{Sin}(15^o) \end{bmatrix}, , \begin{bmatrix} :) \\ :(\\ \begin{bmatrix}\begin{bmatrix} P \\ V \\ S \\ S \end{bmatrix}\end{bmatrix} \\ \& \\ \begin{bmatrix}\begin{bmatrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{bmatrix}\end{bmatrix} \\ :) \\ :(\\ :) \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Cos}(\alpha) = \frac{5}{6}\right), Cond2 = \left(\mathrm{Sin}(\beta) = \frac{-2}{5}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \mathrm{Sin}(\alpha) & .2 = \mathrm{Cos}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha-\beta) \\ .5 = \mathrm{Cos}(\beta-\alpha) & .6 = \mathrm{Tan}(\alpha+\beta) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{bmatrix}\end{bmatrix} \end{bmatrix}, , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{-5}{7}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-2}{5}\right)\right] \\ \begin{bmatrix}\begin{bmatrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\alpha) & .4 = \mathrm{Sin}(\alpha-\beta) \\ .5 = \mathrm{Cos}(\alpha+\beta) & .6 = \mathrm{Tan}(\beta-\alpha) \\ .7 = \mathrm{Sin}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{bmatrix}\end{bmatrix} \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(16^o) = 0.961), Question = \mathrm{Cos}(8^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(76^o) = 0.242), Question = \mathrm{Sin}(38^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.15024

$$No1 = \begin{bmatrix} .1 = \text{Sin}(75^o) & .2 = \text{Cos}\left(\frac{7\pi}{12}\right) \\ .3 = \text{Tan}(15^o) & .4 = \text{Csc}(345^o) \\ .5 = \text{Cos}\left(-\frac{17\pi}{12}\right) & .6 = \text{Sin}((-165)^o) \\ .7 = \text{Cot}\left(-\frac{\pi}{12}\right) & .8 = \text{Sec}(165^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \text{Cos}(15^o)^2 - \text{Sin}(15^o)^2 & .2 = \text{Sin}\left(\frac{17\pi}{30}\right)\text{Cos}\left(\frac{\pi}{15}\right) - \text{Cos}\left(\frac{17\pi}{30}\right)\text{Sin}\left(\frac{\pi}{15}\right) \\ .3 = \text{Cos}\left(\frac{4\pi}{15}\right)\text{Cos}\left(\frac{\pi}{15}\right) - \text{Sin}\left(\frac{4\pi}{15}\right)\text{Sin}\left(\frac{\pi}{15}\right) & .4 = 1 - 2\,\text{Sin}(22.5^o)^2 \\ .5 = \frac{\text{Tan}(20^o) + \text{Tan}(10^o)}{1 - \text{Tan}(20^o)\,\text{Tan}(10^o)} & .6 = \text{Cos}(55^o)\,\text{Cos}(10^o) + \text{Sin}(55^o)\,\text{Sin}(10^o) \\ .7 = 2\,\text{Sin}\left(\frac{\pi}{12}\right)\text{Cos}\left(\frac{\pi}{12}\right) & .8 = \frac{2\,\text{Tan}(22.5^o)}{1 - \text{Tan}(22.5^o)^2} \\ .9 = 2\,\text{Cos}\left(\frac{\pi}{8}\right)^2 - 1 & .10 = \text{Sin}(33^o)\,\text{Cos}(12^o) + \text{Cos}(33^o)\,\text{Sin}(12^o) \end{bmatrix}, , \begin{bmatrix} \underline{:)} \\ :(\\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \underline{:)} \\ :(\\ \underline{:)} \\ :(\end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\text{Cos}(\alpha) = \frac{3}{8}\right), Cond2 = \left(\text{Sin}(\beta) = \frac{-1}{2}\right)\right] \\ \left[\left[\begin{matrix} .1 = \text{Sin}(\alpha) & .2 = \text{Cos}(\beta) \\ .3 = \text{Tan}(\beta) & .4 = \text{Sin}(\beta - \alpha) \\ .5 = \text{Cos}(\alpha + \beta) & .6 = \text{Tan}(\alpha - \beta) \\ .7 = \text{Cos}(2\alpha) & .8 = \text{Tan}(2\beta) \end{matrix}\right]\right] \end{bmatrix}, , No4 = \begin{bmatrix} \left[A = \frac{\pi}{2}, B = \pi, C = \pi, D = \frac{3\pi}{2}\right] \\ \left[Cond1 = \left(\text{Sin}(\alpha) = \frac{2}{3}\right), Cond2 = \left(\text{Cos}(\beta) = \frac{-4}{5}\right)\right] \\ \left[\left[\begin{matrix} .1 = \text{Cos}(\alpha) & .2 = \text{Sin}(\beta) \\ .3 = \text{Tan}(\beta) & .4 = \text{Sin}(\alpha - \beta) \\ .5 = \text{Cos}(\alpha + \beta) & .6 = \text{Tan}(\beta - \alpha) \\ .7 = \text{Cos}(2\beta) & .8 = \text{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\text{Cos}(72^o) = 0.309), Question = \text{Cos}(36^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\text{Cos}(24^o) = 0.914), Question = \text{Sin}(12^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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TrigonometryExercise4 for No.15032

$$No1 = \begin{bmatrix} .1 = \mathrm{Sin}(105^o) & .2 = \mathrm{Cos}\left(\frac{5\pi}{12}\right) \\ .3 = \mathrm{Tan}(15^o) & .4 = \mathrm{Tan}((-255)^o) \\ .5 = \mathrm{Sec}\left(-\frac{\pi}{12}\right) & .6 = \mathrm{Sin}\left(-\frac{19\pi}{12}\right) \\ .7 = \mathrm{Csc}((-75)^o) & .8 = \mathrm{Cot}(165^o) \end{bmatrix}, No2 = \begin{bmatrix} .1 = \mathrm{Sin}\left(\frac{\pi}{15}\right)\mathrm{Cos}\left(\frac{\pi}{10}\right) + \mathrm{Cos}\left(\frac{\pi}{15}\right)\mathrm{Sin}\left(\frac{\pi}{10}\right) & .2 = \frac{2\,\mathrm{Tan}(22.5^o)}{1 - \mathrm{Tan}(22.5^o)^2} \\ .3 = \mathrm{Sin}\left(\frac{7\pi}{12}\right)\mathrm{Cos}\left(\frac{\pi}{12}\right) - \mathrm{Cos}\left(\frac{7\pi}{12}\right)\mathrm{Sin}\left(\frac{\pi}{12}\right) & .4 = \mathrm{Cos}(80^o)\,\mathrm{Cos}(10^o) - \mathrm{Sin}(80^o)\,\mathrm{Sin}(10^o) \\ .5 = \mathrm{Cos}\left(\frac{\pi}{8}\right)^2 - \mathrm{Sin}\left(\frac{\pi}{8}\right)^2 & .6 = \frac{\mathrm{Tan}\left(\frac{5\pi}{18}\right) - \mathrm{Tan}\left(\frac{\pi}{9}\right)}{1 + \mathrm{Tan}\left(\frac{5\pi}{18}\right)\mathrm{Tan}\left(\frac{\pi}{9}\right)} \\ .7 = 2\,\mathrm{Cos}\left(\frac{\pi}{12}\right)^2 - 1 & .8 = 2\,\mathrm{Sin}(15^o)\,\mathrm{Cos}(15^o) \\ .9 = 1 - 2\,\mathrm{Sin}(22.5^o)^2 & .10 = \mathrm{Cos}(80^o)\,\mathrm{Cos}(20^o) + \mathrm{Sin}(80^o)\,\mathrm{Sin}(20^o) \end{bmatrix}, \quad , \begin{bmatrix} \frac{:)}{:(} \\ \left[\left[\begin{matrix} P \\ V \\ S \\ S \end{matrix}\right]\right] \\ \& \\ \left[\left[\begin{matrix} M \\ a \\ t \\ h \\ @ \\ M \\ U \\ T \end{matrix}\right]\right] \\ \frac{:)}{:(} \\ \frac{:)}{:(} \end{bmatrix}$$

$$No3 = \begin{bmatrix} \left[A = 0, B = \frac{\pi}{2}, C = \frac{\pi}{2}, D = \pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{1}{6}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{-4}{7}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Sin}(2\alpha) & .8 = \mathrm{Tan}(2\beta) \end{matrix}\right]\right] \end{bmatrix}, \quad , No4 = \begin{bmatrix} \left[A = \pi, B = \frac{3\pi}{2}, C = \frac{3\pi}{2}, D = 2\pi\right] \\ \left[Cond1 = \left(\mathrm{Sin}(\alpha) = \frac{-2}{3}\right), Cond2 = \left(\mathrm{Cos}(\beta) = \frac{1}{5}\right)\right] \\ \left[\left[\begin{matrix} .1 = \mathrm{Cos}(\alpha) & .2 = \mathrm{Sin}(\beta) \\ .3 = \mathrm{Tan}(\beta) & .4 = \mathrm{Sin}(\alpha - \beta) \\ .5 = \mathrm{Cos}(\alpha + \beta) & .6 = \mathrm{Tan}(\beta - \alpha) \\ .7 = \mathrm{Cos}(2\beta) & .8 = \mathrm{Tan}(2\alpha) \end{matrix}\right]\right] \end{bmatrix}$$

$$No5 = [Cond = (\mathrm{Cos}(18^o) = 0.951), Question = \mathrm{Cos}(9^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

$$No6 = [Cond = (\mathrm{Cos}(84^o) = 0.105), Question = \mathrm{Sin}(42^o)], \quad , \begin{bmatrix} M \\ U \\ T \end{bmatrix}$$

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