Real01 Answers for No.10052

$$Ans1 = [a = 2, b = 2, c = -4]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 4x^2 - 5x + 6] & .2 = [p(x) - q(x) = -2x^2 + 5x] \\ .3 = [q(x) - p(x) = 2x^2 - 5x] & .4 = [mp(x) - nq(x) = -4x^2 + 15x + 6] \\ .5 = [p(x)\,q(x) = 3x^4 - 5x^3 + 12x^2 - 15x + 9] & .6 = [[p(x)]^2 = x^4 + 6x^2 + 9] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^6 - 6x^5 + 6x^4 + 4x^3 - 18x^2 - 12x + 36]$$

$$Ans4 = [a + b = 15, a\,b = 54], \quad , \quad Ans5 = [a = 2, b = 1, a\,b = 2]$$

$$Ans6 = [P(x) = x^4 + x^3 + 6x^2 + 12x - 1]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = 5x^4 + 3x^2 - 3x + 2 \\ R(x) = 1 \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = 5x \\ R(x) = 3x^3 - 3x^2 + 2x + 1 \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = 5x + 7 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + 3x - 13 \\ R(x) = 41 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 4x^3 - 8x \\ R(x) = 16x + 5 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 3 \\ R(x) = 0 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10064

$$Ans1 = [a = -2, b = 3, c = -1]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 5x^2 - x - 4] & .2 = [p(x) - q(x) = -3x^2 + x] \\ .3 = [q(x) - p(x) = 3x^2 - x] & .4 = [mp(x) - nq(x) = -10x^2 + 3x + 2] \\ .5 = [p(x)\,q(x) = 4x^4 - x^3 - 10x^2 + 2x + 4] & .6 = [[p(x)]^2 = x^4 - 4x^2 + 4] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^6 - 8x^5 + 11x^4 + 20x^3 + 6x^2 - 24x - 30]$$

$$Ans4 = [a + b = 3, a\,b = -28], \quad , \quad Ans5 = [a = -6, b = 4, a\,b = -24]$$

$$Ans6 = [P(x) = x^4 - 3x^3 - 4x^2 + 15x - 4]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = x^4 - 4x^2 \\ R(x) = 4 \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = x^2 - 4 \\ R(x) = 4 \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = 3x - 3 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + 4x^2 + 12x + 33 \\ R(x) = 103 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 4x^3 + 4x \\ R(x) = 4x + 5 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 4 \\ R(x) = -1 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10076

$$Ans1 = [a = -2, b = 3, c = -3]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 4x^2 + x + 10] & .2 = [p(x) - q(x) = -2x^2 - x] \\ .3 = [q(x) - p(x) = 2x^2 + x] & .4 = [mp(x) - nq(x) = -9x^2 - 4x - 5] \\ .5 = [p(x)\,q(x) = 3x^4 + x^3 + 20x^2 + 5x + 25] & .6 = [[p(x)]^2 = x^4 + 10x^2 + 25] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^6 - 22x^4 - 15x^3 - 4x^2 - 20x - 12]$$

$$Ans4 = [a + b = 3, a\,b = -18], \quad , \quad Ans5 = [a = -5, b = 2, a\,b = -10]$$

$$Ans6 = [P(x) = x^4 - x^3 + 3x^2 + x + 7]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = 2x^4 + 3x^3 + x^2 - 3x + 2 \\ R(x) = -1 \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = 2x^2 + 3x + 1 \\ R(x) = -3x^2 + 2x - 1 \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = -2x - 5 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 - 4x + 13 \\ R(x) = -35 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 2x^3 - 2x \\ R(x) = 2x - 3 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 1 \\ R(x) = 2 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10077

$$Ans1 = [a = -3, b = -1, c = 3]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 4x^2 + 5x - 8] & .2 = [p(x) - q(x) = -2x^2 - 5x] \\ .3 = [q(x) - p(x) = 2x^2 + 5x] & .4 = [mp(x) - nq(x) = -9x^2 - 20x + 4] \\ .5 = [p(x)\,q(x) = 3x^4 + 5x^3 - 16x^2 - 20x + 16] & .6 = [[p(x)]^2 = x^4 - 8x^2 + 16] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^6 - 11x^5 + 36x^4 - 30x^3 + 4x^2 - 24x + 24]$$

$$Ans4 = [a + b = 1, a\,b = -2], \quad , \quad Ans5 = [a = 2, b = 4, a\,b = 8]$$

$$Ans6 = [P(x) = x^4 - 5x^3 - 4x^2 + 24x + 5]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = 4x^3 + x^2 + 2x + 2 \\ R(x) = 4x - 3 \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = 4x^2 + x + 2 \\ R(x) = 2x^2 + 4x - 3 \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = -7x - 4 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + 7x^2 + 11x + 22 \\ R(x) = 40 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 3x^3 - 9x \\ R(x) = 27x + 2 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 6 \\ R(x) = 3 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10083

$$Ans1 = [a = -4, b = 3, c = 3]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 4x^2 - 2x + 7] & .2 = [p(x) - q(x) = -2x^2 + 2x + 3] \\ .3 = [q(x) - p(x) = 2x^2 - 2x - 3] & .4 = [mp(x) - nq(x) = -13x^2 + 10x] \\ .5 = [p(x)\,q(x) = 3x^4 - 2x^3 + 17x^2 - 10x + 10] & .6 = [[p(x)]^2 = x^4 + 10x^2 + 25] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^5 + 5x^4 + 2x^3 - 3x^2 + 15x - 20]$$

$$Ans4 = [a + b = 14, a\,b = 48], \quad , \quad Ans5 = [a = 4, b = 2, a\,b = 8]$$

$$Ans6 = [P(x) = x^4 - 5x^3 - 3x^2 + 19x + 3]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = x^3 + 2x - 2 \\ R(x) = 0 \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = x^2 + 2 \\ R(x) = -2x^2 \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = x + 6 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + 3x^2 + 5x + 10 \\ R(x) = 23 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 4x^3 - 8x \\ R(x) = 16x - 3 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 \\ R(x) = 3 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10109

$$Ans1 = [a = 1, b = 1, c = -3]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 4x^2 + 5x - 3] & .2 = [p(x) - q(x) = -2x^2 - 5x - 1] \\ .3 = [q(x) - p(x) = 2x^2 + 5x + 1] & .4 = [mp(x) - nq(x) = -9x^2 - 20x - 2] \\ .5 = [p(x)\,q(x) = 3x^4 + 5x^3 - 7x^2 - 10x + 2] & .6 = [[p(x)]^2 = x^4 - 4x^2 + 4] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^5 + 4x^4 + 8x^3 + 2x^2 - 12x - 24]$$

$$Ans4 = [a + b = -12, ab = 32], \quad , \quad Ans5 = [a = -2, b = 7, ab = -14]$$

$$Ans6 = [P(x) = x^4 + x^3 + 4x^2 + 7x - 7]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = 3x^3 - 2x^2 + 3x - 1 \\ R(x) = -2x \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = 3x^2 - 2x + 3 \\ R(x) = -x^2 - 2x \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = 3x + 2 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + x^2 + 2x - 4 \\ R(x) = 11 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 3x^3 + 6x \\ R(x) = 12x - 5 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 1 \\ R(x) = -6 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10180

$$Ans1 = [a = 3, b = -4, c = -4]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 4x^2 + 3x - 6] & .2 = [p(x) - q(x) = -2x^2 - 3x - 2] \\ .3 = [q(x) - p(x) = 2x^2 + 3x + 2] & .4 = [mp(x) - nq(x) = -3x^2 - 6x - 8] \\ .5 = [p(x)\,q(x) = 3x^4 + 3x^3 - 14x^2 - 12x + 8] & .6 = [[p(x)]^2 = x^4 - 8x^2 + 16] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^6 - 2x^5 - 9x^4 + 8x^3 + 24x^2 - 8x - 20]$$

$$Ans4 = [a + b = -3, a\,b = -40], \quad , \quad Ans5 = [a = 7, b = 5, a\,b = 35]$$

$$Ans6 = [P(x) = x^4 - 3x^3 - 7x^2 + 24x + 7]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = 4x^3 - x^2 + x - 4 \\ R(x) = -x \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = 4x - 1 \\ R(x) = x^3 - 4x^2 - x \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = 2x - 5 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + 5x^2 + 15x + 41 \\ R(x) = 126 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 2x^3 + 4x \\ R(x) = 8x + 3 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 8 \\ R(x) = 18 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10181

$$Ans1 = [a = -1, b = 1, c = 2]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 4x^2 - 5x + 2] & .2 = [p(x) - q(x) = -2x^2 + 5x + 8] \\ .3 = [q(x) - p(x) = 2x^2 - 5x - 8] & .4 = [mp(x) - nq(x) = -11x^2 + 25x + 35] \\ .5 = [p(x)\,q(x) = 3x^4 - 5x^3 + 12x^2 - 25x - 15] & .6 = [[p(x)]^2 = x^4 + 10x^2 + 25] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^5 - 2x^4 - 12x^3 + 22x^2 + 12x - 24]$$

$$Ans4 = [a + b = -10, a\,b = 21], \quad , \quad Ans5 = [a = -2, b = 3, a\,b = -6]$$

$$Ans6 = [P(x) = x^4 - 7x^3 + 6x^2 - 37x + 6]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = 4x^4 - 4x^3 + 4x - 3 \\ R(x) = -3 \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = 4x^2 - 4x \\ R(x) = 4x^2 - 3x - 3 \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = -5x - 2 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + 2x^2 - 2x + 4 \\ R(x) = -12 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 3x^3 - 9x \\ R(x) = 27x - 2 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 4 \\ R(x) = -6 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10191

$$Ans1 = [a = -3, b = 1, c = -5]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 5x^2 - 3x - 1] & .2 = [p(x) - q(x) = -3x^2 + 3x + 3] \\ .3 = [q(x) - p(x) = 3x^2 - 3x - 3] & .4 = [mp(x) - nq(x) = -5x^2 + 6x + 7] \\ .5 = [p(x)\,q(x) = 4x^4 - 3x^3 + 2x^2 - 3x - 2] & .6 = [[p(x)]^2 = x^4 + 2x^2 + 1] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^6 + 2x^5 + 4x^4 - 6x^3 - 16x^2 - 32x - 16]$$

$$Ans4 = [a + b = -14, a\,b = 45], \quad , \quad Ans5 = [a = -4, b = 7, a\,b = -28]$$

$$Ans6 = [P(x) = x^4 - 6x^3 + x^2 - x + 4]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = 3x^4 + 3x - 2 \\ R(x) = 3 \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = 3x^2 \\ R(x) = 3x^2 - 2x + 3 \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = -4x + 2 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + x^2 - 2 \\ R(x) = 1 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 3x^3 + 3x \\ R(x) = 3x + 2 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 7 \\ R(x) = 8 \end{bmatrix} \end{bmatrix}$$

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Real01 Answers for No.10281

$$Ans1 = [a = -1, b = 0, c = 4]$$

$$Ans2 = \begin{bmatrix} .1 = [p(x) + q(x) = 3x^2 + 4x + 4] & .2 = [p(x) - q(x) = -x^2 - 4x + 2] \\ .3 = [q(x) - p(x) = x^2 + 4x - 2] & .4 = [mp(x) - nq(x) = -7x^2 - 20x + 4] \\ .5 = [p(x)\,q(x) = 2x^4 + 4x^3 + 7x^2 + 12x + 3] & .6 = [[p(x)]^2 = x^4 + 6x^2 + 9] \end{bmatrix}$$

$$Ans3 = [p(x)\,q(x) = x^6 + 2x^5 + 10x^4 + 8x^3 + 21x^2 - 6x - 18]$$

$$Ans4 = [a + b = 2, a\,b = -3], \quad , \quad Ans5 = [a = -4, b = 5, a\,b = -20]$$

$$Ans6 = [P(x) = x^4 - 6x^3 + 7x^2 - 39x + 7]$$

$$Ans7 = \begin{bmatrix} .1 = \begin{bmatrix} Q(x) = 3x^4 + 2x^3 - 4x^2 + x + 1 \\ R(x) = -3 \end{bmatrix} & .2 = \begin{bmatrix} Q(x) = 3x^2 + 2x - 4 \\ R(x) = x^2 + x - 3 \end{bmatrix} \\ .3 = \begin{bmatrix} Q(x) = x \\ R(x) = 2x + 6 \end{bmatrix} & .4 = \begin{bmatrix} Q(x) = x^3 + 5x^2 + 15x + 46 \\ R(x) = 134 \end{bmatrix} \\ .5 = \begin{bmatrix} Q(x) = 3x^3 + 6x \\ R(x) = 12x + 5 \end{bmatrix} & .6 = \begin{bmatrix} Q(x) = x^3 + 3 \\ R(x) = 2 \end{bmatrix} \end{bmatrix}$$

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