Limit02_piecewise Answers for No.9594

Ans01 >

x	-1.2000	-1.1000	-1.0100	-1.0010	-1.0001	...	a = -1	...	-0.9999	-0.9990	-0.9900	-0.9000	-0.8000
f(x)	-7.4000	-7.2000	-7.0200	-7.0020	-7.0002	...	f(-1) = NA	...	-0.0003	-0.0030	-0.0300	-0.3000	-0.6000

$$\lim_{x \to (-1)-} f(x) = -7, \quad \lim_{x \to (-1)+} f(x) = 0, \quad \lim_{x \to (-1)} f(x) = \textit{does not exist},$$ " # f(x) is discontinuous at x = -1"

Ans02 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	7.2000	7.1000	7.0100	7.0010	7.0001	...	f(5) = 7	...	6.0000	6.0000	6.0000	6.0000	6.0000

$$\lim_{x \to 5-} f(x) = 7, \quad \lim_{x \to 5+} f(x) = 6, \quad \lim_{x \to 5} f(x) = \textit{does not exist},$$ " # f(x) is discontinuous at x = 5"

Ans03 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	4.2000	4.1000	4.0100	4.0010	4.0001	...	f(5) = 4	...	4.0000	4.0000	4.0000	4.0000	4.0000

$$\lim_{x \to 5-} f(x) = 4, \quad \lim_{x \to 5+} f(x) = 4, \quad \lim_{x \to 5} f(x) = 4,$$ " # f(x) is continuous at x = 5"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-2	-9	-9	-9	-9	Continuous
	0	-3	-3	-3	-3	Continuous
	1	-6	-6	-6	-6	Continuous
	3	-12	-12	-12	-12	Continuous
	-1	undefined	-7	0	DNE	Discontinuous
Ans05	-6	30	30	30	30	Continuous
	0	24	24	24	24	Continuous
	2	24	24	24	24	Continuous
	4	24	24	24	24	Continuous
	-5	undefined	26	24	DNE	Discontinuous
Ans06	-12	1	1	1	1	Continuous
	-9	1	1	1	1	Continuous
	-8	0	0	0	0	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	6	2	2	2	2	Continuous

Limit02_piecewise Answers for No.9608

Ans01 >

x	-2.2000	-2.1000	-2.0100	-2.0010	-2.0001	...	a = -2	...	-1.9999	-1.9990	-1.9900	-1.9000	-1.8000
f(x)	-18.0000	-17.5000	-17.0500	-17.0050	-17.0005	...	f(-2) = 20	...	19.9993	19.9930	19.9300	19.3000	18.6000

$\lim_{x\to(-2)-} f(x) = -17,\quad \lim_{x\to(-2)+} f(x) = 20,\quad \lim_{x\to(-2)} f(x) = \textit{does not exist},$ " # f(x) is discontinuous at x = -2"

Ans02 >

x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000
f(x)	3.0000	3.0000	3.0000	3.0000	3.0000	...	f(4) = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000

$\lim_{x\to 4-} f(x) = 3,\quad \lim_{x\to 4+} f(x) = 3,\quad \lim_{x\to 4} f(x) = 3,$ " # f(x) is continuous at x = 4"

Ans03 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	5.8000	5.9000	5.9900	5.9990	5.9999	...	f(2) = 6	...	5.0000	5.0000	5.0000	5.0000	5.0000

$\lim_{x\to 2-} f(x) = 6,\quad \lim_{x\to 2+} f(x) = 5,\quad \lim_{x\to 2} f(x) = \textit{does not exist},$ " # f(x) is discontinuous at x = 2"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-6	-37	-37	-37	-37	Continuous
	0	6	6	6	6	Continuous
	4	-22	-22	-22	-22	Continuous
	6	-36	-36	-36	-36	Continuous
	-2	20	-17	20	DNE	Discontinuous
Ans05	-6	-23	-23	-23	-23	Continuous
	0	-4	-4	-4	-4	Continuous
	7	-34	-34	-34	-34	Continuous
	1	-4	-4	-4	-4	Continuous
	-4	-15	-15	-4	DNE	Discontinuous
Ans06	-3	1	1	1	1	Continuous
	-2	2	2	2	2	Continuous
	0	5	2	2	2	Discontinuous
	4	1	1	1	1	Continuous
	9	undefined	infinity	infinity	infinity	Discontinuous

Limit02_piecewise Answers for No.9646

Ans01 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	-13.2000	-13.6000	-13.9600	-13.9960	-13.9996	...	f(2) = 18	...	18.0006	18.0060	18.0600	18.6000	19.2000

$\lim_{x \to 2-} f(x) = -14,$, $\lim_{x \to 2+} f(x) = 18,$, $\lim_{x \to 2} f(x) = \textit{does not exist},$, " # f(x) is discontinuous at x = 2"

Ans02 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	6.8000	6.9000	6.9900	6.9990	6.9999	...	f(2) = 6	...	6.0000	6.0000	6.0000	6.0000	6.0000

$\lim_{x \to 2-} f(x) = 7,$, $\lim_{x \to 2+} f(x) = 6,$, $\lim_{x \to 2} f(x) = \textit{does not exist},$, " # f(x) is discontinuous at x = 2"

Ans03 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	4.2000	4.1000	4.0100	4.0010	4.0001	...	f(5) = 6	...	4.0000	4.0000	4.0000	4.0000	4.0000

$\lim_{x \to 5-} f(x) = 4,$, $\lim_{x \to 5+} f(x) = 4,$, $\lim_{x \to 5} f(x) = 4,$, " # f(x) is discontinuous at x = 5"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-4	10	10	10	10	Continuous
	-1	-2	-2	-2	-2	Continuous
	0	-6	-6	-6	-6	Continuous
	4	30	30	30	30	Continuous
	2	18	-14	18	DNE	Discontinuous
Ans05	-3	10	10	10	10	Continuous
	0	5	5	5	5	Continuous
	6	21	21	21	21	Continuous
	5	-20	-20	18	DNE	Discontinuous
	-1	10	10	10	10	Continuous
Ans06	-10	2	1	2	DNE	Discontinuous
	-6	1	1	1	1	Continuous
	2	undefined	0	0	0	Discontinuous
	4	1	1	1	1	Continuous
	8	-1	3	3	3	Discontinuous

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Limit02_piecewise Answers for No.9649

Ans01 >

x	0.8000	0.9000	0.9900	0.9990	0.9999	...	a = 1	...	1.0001	1.0010	1.0100	1.1000	1.2000
f(x)	2.8000	2.4000	2.0400	2.0040	2.0004	...	f(1) = NA	...	0.0005	0.0050	0.0500	0.5000	1.0000

$\lim_{x \to 1-} f(x) = 2$, , $\lim_{x \to 1+} f(x) = 0$, , $\lim_{x \to 1} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 1"

Ans02 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	4.2000	4.1000	4.0100	4.0010	4.0001	...	f(5) = 4	...	4.0000	4.0000	4.0000	4.0000	4.0000

$\lim_{x \to 5-} f(x) = 4$, , $\lim_{x \to 5+} f(x) = 4$, , $\lim_{x \to 5} f(x) = 4$, , " # f(x) is continuous at x = 5"

Ans03 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	9.2000	9.1000	9.0100	9.0010	9.0001	...	f(2) = 9	...	6.0000	6.0000	6.0000	6.0000	6.0000

$\lim_{x \to 2-} f(x) = 9$, , $\lim_{x \to 2+} f(x) = 6$, , $\lim_{x \to 2} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 2"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-3	18	18	18	18	Continuous
	-2	14	14	14	14	Continuous
	0	6	6	6	6	Continuous
	7	30	30	30	30	Continuous
	1	undefined	2	0	DNE	Discontinuous
Ans05	-7	-34	-34	-34	-34	Continuous
	0	-3	-3	-3	-3	Continuous
	1	-4	-4	-4	-4	Continuous
	3	-6	-6	-6	-6	Continuous
	-2	-1	-14	-1	DNE	Discontinuous
Ans06	-12	1	1	1	1	Continuous
	-6	1	1	1	1	Continuous
	-2	2	2	2	2	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	0	5	2	2	2	Discontinuous

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Limit02_piecewise Answers for No.9669

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Ans01 >    x   |  2.8000|  2.9000|  2.9900|  2.9990|  2.9999|...|    a   =    3 |...|  3.0001|  3.0010|  3.0100|  3.1000|  3.2000|
         f(x)  | 15.0000| 15.5000| 15.9500| 15.9950| 15.9995|...| f( 3)  = -12 |...|-12.0002|-12.0020|-12.0200|-12.2000|-12.4000|
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$$\lim_{x\to 3-} f(x)=16, \quad , \lim_{x\to 3+} f(x)=-12, \quad , \lim_{x\to 3} f(x)=\textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = 3"}$$

```
Ans02 >    x   |  1.8000|  1.9000|  1.9900|  1.9990|  1.9999|...|    a   =    2 |...|  2.0001|  2.0010|  2.0100|  2.1000|  2.2000|
         f(x)  |  5.0000|  5.0000|  5.0000|  5.0000|  5.0000|...| f( 2)  =    7 |...|  6.9999|  6.9990|  6.9900|  6.9000|  6.8000|
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$$\lim_{x\to 2-} f(x)=5, \quad , \lim_{x\to 2+} f(x)=7, \quad , \lim_{x\to 2} f(x)=\textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = 2"}$$

```
Ans03 >    x   |  2.8000|  2.9000|  2.9900|  2.9990|  2.9999|...|    a   =    3 |...|  3.0001|  3.0010|  3.0100|  3.1000|  3.2000|
         f(x)  |  6.2000|  6.1000|  6.0100|  6.0010|  6.0001|...| f( 3)  =    6 |...|  6.0000|  6.0000|  6.0000|  6.0000|  6.0000|
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$$\lim_{x\to 3-} f(x)=6, \quad , \lim_{x\to 3+} f(x)=6, \quad , \lim_{x\to 3} f(x)=6, \quad ,\text{" \# f(x) is continuous at x = 3"}$$

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-6	-29	-29	-29	-29	Continuous
	-1	-4	-4	-4	-4	Continuous
	0	1	1	1	1	Continuous
	7	-20	-20	-20	-20	Continuous
	3	-12	16	-12	DNE	Discontinuous
Ans05	-3	2	2	2	2	Continuous
	0	3	3	3	3	Continuous
	7	-9	-9	-9	-9	Continuous
	3	undefined	6	-1	DNE	Discontinuous
	-1	2	2	2	2	Continuous
Ans06	-11	3	1	1	1	Discontinuous
	-5	1	1	infinity	DNE	Discontinuous
	-3	1	1	1	1	Continuous
	6	2	2	2	2	Continuous
	10	0	3	3	3	Discontinuous

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Limit02_piecewise Answers for No.9717

Ans01 >

x	0.8000	0.9000	0.9900	0.9990	0.9999	...	a = 1	...	1.0001	1.0010	1.0100	1.1000	1.2000
f(x)	5.2000	5.6000	5.9600	5.9960	5.9996	...	f(1) = 6	...	-7.0005	-7.0050	-7.0500	-7.5000	-8.0000

$\lim_{x \to 1-} f(x) = 6$, , $\lim_{x \to 1+} f(x) = -7$, , $\lim_{x \to 1} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 1"

Ans02 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	4.2000	4.1000	4.0100	4.0010	4.0001	...	f(5) = 4	...	4.0000	4.0000	4.0000	4.0000	4.0000

$\lim_{x \to 5-} f(x) = 4$, , $\lim_{x \to 5+} f(x) = 4$, , $\lim_{x \to 5} f(x) = 4$, , " # f(x) is continuous at x = 5"

Ans03 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	8.8000	8.9000	8.9900	8.9990	8.9999	...	f(2) = 9	...	6.0000	6.0000	6.0000	6.0000	6.0000

$\lim_{x \to 2-} f(x) = 9$, , $\lim_{x \to 2+} f(x) = 6$, , $\lim_{x \to 2} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 2"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-5	-18	-18	-18	-18	Continuous
	-1	-2	-2	-2	-2	Continuous
	0	2	2	2	2	Continuous
	5	-27	-27	-27	-27	Continuous
	1	6	6	-7	DNE	Discontinuous
Ans05	-5	12	12	12	12	Continuous
	0	18	18	18	18	Continuous
	6	26	26	26	26	Continuous
	4	18	18	18	18	Continuous
	-4	10	10	18	DNE	Discontinuous
Ans06	-12	1	1	1	1	Continuous
	-8	0	0	0	0	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	2	undefined	0	0	0	Discontinuous
	6	2	2	2	2	Continuous

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Limit02_piecewise Answers for No.9763

Ans01 >

x	-1.2000	-1.1000	-1.0100	-1.0010	-1.0001	...	a = -1	...	-0.9999	-0.9990	-0.9900	-0.9000	-0.8000
f(x)	-10.2000	-9.6000	-9.0600	-9.0060	-9.0006	...	f(-1) = NA	...	13.9993	13.9930	13.9300	13.3000	12.6000

$\lim_{x \to (-1)-} f(x) = -9$, , $\lim_{x \to (-1)+} f(x) = 14$, , $\lim_{x \to (-1)} f(x) = \textit{does not exist}$, , " # f(x) is discontinuous at x = -1"

Ans02 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	2.0000	2.0000	2.0000	2.0000	2.0000	...	f(5) = 3	...	2.9999	2.9990	2.9900	2.9000	2.8000

$\lim_{x \to 5-} f(x) = 2$, , $\lim_{x \to 5+} f(x) = 3$, , $\lim_{x \to 5} f(x) = \textit{does not exist}$, , " # f(x) is discontinuous at x = 5"

Ans03 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	4.0000	4.0000	4.0000	4.0000	4.0000	...	f(5) = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000

$\lim_{x \to 5-} f(x) = 4$, , $\lim_{x \to 5+} f(x) = 4$, , $\lim_{x \to 5} f(x) = 4$, , " # f(x) is continuous at x = 5"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-4	-27	-27	-27	-27	Continuous
	0	7	7	7	7	Continuous
	1	0	0	0	0	Continuous
	7	-42	-42	-42	-42	Continuous
	-1	undefined	-9	14	DNE	Discontinuous
Ans05	-6	5	5	5	5	Continuous
	0	-1	-1	-1	-1	Continuous
	3	2	2	2	2	Continuous
	1	2	2	2	2	Continuous
	-4	undefined	1	-13	DNE	Discontinuous
Ans06	-4	2	2	2	2	Continuous
	-2	2	2	2	2	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	0	5	2	2	2	Discontinuous
	10	0	3	3	3	Discontinuous

Limit02_piecewise Answers for No.9877

Ans01 >	x	-3.2000	-3.1000	-3.0100	-3.0010	-3.0001	...	a =	-3	...	-2.9999	-2.9990	-2.9900	-2.9000	-2.8000
	f(x)	3.4000	3.2000	3.0200	3.0020	3.0002	...	f(-3) =	NA	...	-21.9994	-21.9940	-21.9400	-21.4000	-20.8000

$\lim_{x\to(-3)-} f(x) = 3,\ ,\ \lim_{x\to(-3)+} f(x) = -22,\ ,\ \lim_{x\to(-3)} f(x) = \textit{does not exist},$, " # f(x) is discontinuous at x = -3"

Ans02 >	x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a =	5	...	5.0001	5.0010	5.0100	5.1000	5.2000
	f(x)	5.0000	5.0000	5.0000	5.0000	5.0000	...	f(5) =	5	...	5.9999	5.9990	5.9900	5.9000	5.8000

$\lim_{x\to 5-} f(x) = 5,\ ,\ \lim_{x\to 5+} f(x) = 6,\ ,\ \lim_{x\to 5} f(x) = \textit{does not exist},$, " # f(x) is discontinuous at x = 5"

Ans03 >	x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a =	4	...	4.0001	4.0010	4.0100	4.1000	4.2000
	f(x)	4.8000	4.9000	4.9900	4.9990	4.9999	...	f(4) =	5	...	5.0000	5.0000	5.0000	5.0000	5.0000

$\lim_{x\to 4-} f(x) = 5,\ ,\ \lim_{x\to 4+} f(x) = 5,\ ,\ \lim_{x\to 4} f(x) = 5,$, " # f(x) is continuous at x = 4"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-6	9	9	9	9	Continuous
	0	-4	-4	-4	-4	Continuous
	5	26	26	26	26	Continuous
	6	32	32	32	32	Continuous
	-3	undefined	3	-22	DNE	Discontinuous
Ans05	-1	-8	-8	-8	-8	Continuous
	0	-6	-6	-6	-6	Continuous
	2	-2	-2	-2	-2	Continuous
	3	0	0	0	0	Continuous
	-4	20	20	-14	DNE	Discontinuous
Ans06	-10	2	1	2	DNE	Discontinuous
	-4	2	2	2	2	Continuous
	-3	1	1	1	1	Continuous
	-2	2	2	2	2	Continuous
	3	undefined	-1	-infinity	DNE	Discontinuous

Limit02_piecewise Answers for No.9911

Ans01 >

x	-3.2000	-3.1000	-3.0100	-3.0010	-3.0001	...	a = -3	...	-2.9999	-2.9990	-2.9900	-2.9000	-2.8000
f(x)	16.0000	15.5000	15.0500	15.0050	15.0005	...	f(-3) = 15	...	-13.9997	-13.9970	-13.9700	-13.7000	-13.4000

$$\lim_{x\to(-3)-} f(x) = 15, \quad , \lim_{x\to(-3)+} f(x) = -14, \quad , \lim_{x\to(-3)} f(x) = \textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = -3"}$$

Ans02 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	2.8000	2.9000	2.9900	2.9990	2.9999	...	f(2) = 3	...	3.0000	3.0000	3.0000	3.0000	3.0000

$$\lim_{x\to 2-} f(x) = 3, \quad , \lim_{x\to 2+} f(x) = 3, \quad , \lim_{x\to 2} f(x) = 3, \quad ,\text{" \# f(x) is continuous at x = 2"}$$

Ans03 >

x	6.8000	6.9000	6.9900	6.9990	6.9999	...	a = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000
f(x)	5.0000	5.0000	5.0000	5.0000	5.0000	...	f(7) = 5	...	2.0001	2.0010	2.0100	2.1000	2.2000

$$\lim_{x\to 7-} f(x) = 5, \quad , \lim_{x\to 7+} f(x) = 2, \quad , \lim_{x\to 7} f(x) = \textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = 7"}$$

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-6	30	30	30	30	Continuous
	0	-5	-5	-5	-5	Continuous
	1	-2	-2	-2	-2	Continuous
	7	16	16	16	16	Continuous
	-3	15	15	-14	DNE	Discontinuous
Ans05	-4	-3	-3	-3	-3	Continuous
	0	5	5	5	5	Continuous
	4	11	11	11	11	Continuous
	3	undefined	11	11	11	Discontinuous
	-5	-5	19	-5	DNE	Discontinuous
Ans06	-11	3	1	1	1	Discontinuous
	-9	1	1	1	1	Continuous
	-8	0	0	0	0	Continuous
	1	1	1	1	1	Continuous
	12	4	2	2	2	Discontinuous

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Limit02_piecewise Answers for No.10027

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Ans01 >   x   | -2.2000| -2.1000| -2.0100| -2.0010| -2.0001|...|    a   =  -2 |...| -1.9999| -1.9990| -1.9900| -1.9000| -1.8000|
        f(x)  |  4.4000|  4.2000|  4.0200|  4.0020|  4.0002|...| f(-2) =  -5 |...| -4.9995| -4.9950| -4.9500| -4.5000| -4.0000|
```

$\lim_{x \to (-2)-} f(x) = 4,\quad , \lim_{x \to (-2)+} f(x) = -5,\quad , \lim_{x \to (-2)} f(x) = \textit{does not exist},$ " # f(x) is discontinuous at x = -2"

```
Ans02 >   x   |  1.8000|  1.9000|  1.9900|  1.9990|  1.9999|...|    a   =   2 |...|  2.0001|  2.0010|  2.0100|  2.1000|  2.2000|
        f(x)  |  3.0000|  3.0000|  3.0000|  3.0000|  3.0000|...| f( 2) =   3 |...|  2.9999|  2.9990|  2.9900|  2.9000|  2.8000|
```

$\lim_{x \to 2-} f(x) = 3,\quad , \lim_{x \to 2+} f(x) = 3,\quad , \lim_{x \to 2} f(x) = 3,$ " # f(x) is continuous at x = 2"

```
Ans03 >   x   |  6.8000|  6.9000|  6.9900|  6.9990|  6.9999|...|    a   =   7 |...|  7.0001|  7.0010|  7.0100|  7.1000|  7.2000|
        f(x)  |  5.0000|  5.0000|  5.0000|  5.0000|  5.0000|...| f( 7) =   5 |...|  2.0001|  2.0010|  2.0100|  2.1000|  2.2000|
```

$\lim_{x \to 7-} f(x) = 5,\quad , \lim_{x \to 7+} f(x) = 2,\quad , \lim_{x \to 7} f(x) = \textit{does not exist},$ " # f(x) is discontinuous at x = 7"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-1	0	0	0	0	Continuous
	0	5	5	5	5	Continuous
	4	25	25	25	25	Continuous
	7	40	40	40	40	Continuous
	-2	-5	4	-5	DNE	Discontinuous
Ans05	-1	11	11	11	11	Continuous
	0	11	11	11	11	Continuous
	4	11	11	11	11	Continuous
	5	undefined	11	1	DNE	Discontinuous
	-4	11	11	11	11	Continuous
Ans06	-11	3	1	1	1	Discontinuous
	-9	1	1	1	1	Continuous
	-6	1	1	1	1	Continuous
	-4	2	2	2	2	Continuous
	-2	2	2	2	2	Continuous

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Limit02_piecewise Answers for No.10063

Ans01 >

x	-1.2000	-1.1000	-1.0100	-1.0010	-1.0001	...	a = -1	...	-0.9999	-0.9990	-0.9900	-0.9000	-0.8000
f(x)	8.8000	8.4000	8.0400	8.0040	8.0004	...	f(-1) = 8	...	-4.9993	-4.9930	-4.9300	-4.3000	-3.6000

$$\lim_{x \to (-1)-} f(x) = 8, \quad , \lim_{x \to (-1)+} f(x) = -5, \quad , \lim_{x \to (-1)} f(x) = \textit{does not exist}, \quad \text{, " \# f(x) is discontinuous at x = -1"}$$

Ans02 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(2) = 6	...	7.0001	7.0010	7.0100	7.1000	7.2000

$$\lim_{x \to 2-} f(x) = 6, \quad , \lim_{x \to 2+} f(x) = 7, \quad , \lim_{x \to 2} f(x) = \textit{does not exist}, \quad \text{, " \# f(x) is discontinuous at x = 2"}$$

Ans03 >

x	7.8000	7.9000	7.9900	7.9990	7.9999	...	a = 8	...	8.0001	8.0010	8.0100	8.1000	8.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(8) = 8	...	6.0001	6.0010	6.0100	6.1000	6.2000

$$\lim_{x \to 8-} f(x) = 6, \quad , \lim_{x \to 8+} f(x) = 6, \quad , \lim_{x \to 8} f(x) = 6, \quad \text{, " \# f(x) is discontinuous at x = 8"}$$

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-7	32	32	32	32	Continuous
	0	2	2	2	2	Continuous
	1	9	9	9	9	Continuous
	4	30	30	30	30	Continuous
	-1	8	8	-5	DNE	Discontinuous
Ans05	-1	13	13	13	13	Continuous
	0	13	13	13	13	Continuous
	5	0	0	0	0	Continuous
	3	undefined	13	-2	DNE	Discontinuous
	-2	13	13	13	13	Continuous
Ans06	-8	0	0	0	0	Continuous
	-3	1	1	1	1	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	9	undefined	infinity	infinity	infinity	Discontinuous
	10	0	3	3	3	Discontinuous

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Limit02_piecewise Answers for No.10120

Ans01 >

x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	-5.6000	-5.8000	-5.9800	-5.9980	-5.9998	...	f(3) = 19	...	19.0007	19.0070	19.0700	19.7000	20.4000

$\lim_{x \to 3-} f(x) = -6,\quad ,\ \lim_{x \to 3+} f(x) = 19,\quad ,\ \lim_{x \to 3} f(x) = \textit{does not exist},\quad$," # f(x) is discontinuous at x = 3"

Ans02 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	7.0000	7.0000	7.0000	7.0000	7.0000	...	f(2) = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000

$\lim_{x \to 2-} f(x) = 7,\quad ,\ \lim_{x \to 2+} f(x) = 7,\quad ,\ \lim_{x \to 2} f(x) = 7,\quad$," # f(x) is continuous at x = 2"

Ans03 >

x	5.8000	5.9000	5.9900	5.9990	5.9999	...	a = 6	...	6.0001	6.0010	6.0100	6.1000	6.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(6) = 6	...	5.0001	5.0010	5.0100	5.1000	5.2000

$\lim_{x \to 6-} f(x) = 6,\quad ,\ \lim_{x \to 6+} f(x) = 5,\quad ,\ \lim_{x \to 6} f(x) = \textit{does not exist},\quad$," # f(x) is discontinuous at x = 6"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-4	8	8	8	8	Continuous
	-3	6	6	6	6	Continuous
	0	0	0	0	0	Continuous
	6	40	40	40	40	Continuous
	3	19	-6	19	DNE	Discontinuous
Ans05	-5	-11	-11	-11	-11	Continuous
	0	-7	-7	-7	-7	Continuous
	1	-3	-3	-3	-3	Continuous
	5	undefined	13	-20	DNE	Discontinuous
	-1	-11	-11	-11	-11	Continuous
Ans06	-12	1	1	1	1	Continuous
	-11	3	1	1	1	Discontinuous
	-10	2	1	2	DNE	Discontinuous
	-6	1	1	1	1	Continuous
	-4	2	2	2	2	Continuous

Limit02_piecewise Answers for No.10367

Ans01 >

x	0.8000	0.9000	0.9900	0.9990	0.9999	...	a = 1	...	1.0001	1.0010	1.0100	1.1000	1.2000
f(x)	-0.6000	-0.8000	-0.9800	-0.9980	-0.9998	...	f(1) = -4	...	-3.9999	-3.9990	-3.9900	-3.9000	-3.8000

$\lim_{x \to 1-} f(x) = -1,\quad \lim_{x \to 1+} f(x) = -4,\quad \lim_{x \to 1} f(x) = \textit{does not exist},$ " # f(x) is discontinuous at x = 1"

Ans02 >

x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000
f(x)	4.8000	4.9000	4.9900	4.9990	4.9999	...	f(4) = 3	...	3.0000	3.0000	3.0000	3.0000	3.0000

$\lim_{x \to 4-} f(x) = 5,\quad \lim_{x \to 4+} f(x) = 3,\quad \lim_{x \to 4} f(x) = \textit{does not exist},$ " # f(x) is discontinuous at x = 4"

Ans03 >

x	6.8000	6.9000	6.9900	6.9990	6.9999	...	a = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000
f(x)	4.0000	4.0000	4.0000	4.0000	4.0000	...	f(7) = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000

$\lim_{x \to 7-} f(x) = 4,\quad \lim_{x \to 7+} f(x) = 4,\quad \lim_{x \to 7} f(x) = 4,$ " # f(x) is continuous at x = 7"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-5	11	11	11	11	Continuous
	-2	5	5	5	5	Continuous
	0	1	1	1	1	Continuous
	3	-2	-2	-2	-2	Continuous
	1	-4	-1	-4	DNE	Discontinuous
Ans05	-6	23	23	23	23	Continuous
	0	7	7	7	7	Continuous
	5	4	4	4	4	Continuous
	2	1	7	1	DNE	Discontinuous
	-2	undefined	7	7	7	Discontinuous
Ans06	1	1	1	1	1	Continuous
	3	undefined	-1	-infinity	DNE	Discontinuous
	6	2	2	2	2	Continuous
	10	0	3	3	3	Discontinuous
	12	4	2	2	2	Discontinuous

Limit02_piecewise Answers for No.10372

Ans01 >	x	-3.2000	-3.1000	-3.0100	-3.0010	-3.0001	...	a = -3	...	-2.9999	-2.9990	-2.9900	-2.9000	-2.8000
	f(x)	4.4000	4.2000	4.0200	4.0020	4.0002	...	f(-3) = -11	...	-10.9997	-10.9970	-10.9700	-10.7000	-10.4000

$\lim_{x \to (-3)-} f(x) = 4$, , $\lim_{x \to (-3)+} f(x) = -11$, , $\lim_{x \to (-3)} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = -3"

Ans02 >	x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
	f(x)	4.2000	4.1000	4.0100	4.0010	4.0001	...	f(3) = 6	...	6.0000	6.0000	6.0000	6.0000	6.0000

$\lim_{x \to 3-} f(x) = 4$, , $\lim_{x \to 3+} f(x) = 6$, , $\lim_{x \to 3} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 3"

Ans03 >	x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
	f(x)	4.8000	4.9000	4.9900	4.9990	4.9999	...	f(2) = 7	...	5.0000	5.0000	5.0000	5.0000	5.0000

$\lim_{x \to 2-} f(x) = 5$, , $\lim_{x \to 2+} f(x) = 5$, , $\lim_{x \to 2} f(x) = 5$, , " # f(x) is discontinuous at x = 2"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-2	-8	-8	-8	-8	Continuous
	0	-2	-2	-2	-2	Continuous
	3	7	7	7	7	Continuous
	7	19	19	19	19	Continuous
	-3	-11	4	-11	DNE	Discontinuous
Ans05	-4	-10	-10	-10	-10	Continuous
	0	-11	-11	-11	-11	Continuous
	2	-11	-11	-11	-11	Continuous
	5	undefined	-11	-11	-11	Discontinuous
	-3	-6	-6	-11	DNE	Discontinuous
Ans06	-9	1	1	1	1	Continuous
	-8	0	0	0	0	Continuous
	1	1	1	1	1	Continuous
	6	2	2	2	2	Continuous
	9	undefined	infinity	infinity	infinity	Discontinuous

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Limit02_piecewise Answers for No.10375

Ans01 >	x	-2.2000	-2.1000	-2.0100	-2.0010	-2.0001	...	a = -2	...	-1.9999	-1.9990	-1.9900	-1.9000	-1.8000
	f(x)	-5.4000	-5.2000	-5.0200	-5.0020	-5.0002	...	f(-2) = 6	...	5.9996	5.9960	5.9600	5.6000	5.2000

$\lim_{x\to(-2)-} f(x) = -5$, , $\lim_{x\to(-2)+} f(x) = 6$, , $\lim_{x\to(-2)} f(x) = \textit{does not exist}$, , " # f(x) is discontinuous at x = -2"

Ans02 >	x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000
	f(x)	5.0000	5.0000	5.0000	5.0000	5.0000	...	f(4) = 5	...	4.9999	4.9990	4.9900	4.9000	4.8000

$\lim_{x\to 4-} f(x) = 5$, , $\lim_{x\to 4+} f(x) = 5$, , $\lim_{x\to 4} f(x) = 5$, , " # f(x) is continuous at x = 4"

Ans03 >	x	6.8000	6.9000	6.9900	6.9990	6.9999	...	a = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000
	f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(7) = 6	...	7.9999	7.9990	7.9900	7.9000	7.8000

$\lim_{x\to 7-} f(x) = 6$, , $\lim_{x\to 7+} f(x) = 8$, , $\lim_{x\to 7} f(x) = \textit{does not exist}$, , " # f(x) is discontinuous at x = 7"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-1	2	2	2	2	Continuous
	0	-2	-2	-2	-2	Continuous
	5	-22	-22	-22	-22	Continuous
	6	-26	-26	-26	-26	Continuous
	-2	6	-5	6	DNE	Discontinuous
Ans05	-2	-5	-5	-5	-5	Continuous
	0	-3	-3	-3	-3	Continuous
	7	-28	-28	-28	-28	Continuous
	5	2	2	-22	DNE	Discontinuous
	-4	-7	-7	-7	-7	Continuous
Ans06	-12	1	1	1	1	Continuous
	-11	3	1	1	1	Discontinuous
	-8	0	0	0	0	Continuous
	0	5	2	2	2	Discontinuous
	10	0	3	3	3	Discontinuous

Limit02_piecewise Answers for No.10426

Ans01 >

x	-3.2000	-3.1000	-3.0100	-3.0010	-3.0001	...	a = -3	...	-2.9999	-2.9990	-2.9900	-2.9000	-2.8000
f(x)	0.8000	0.9000	0.9900	0.9990	0.9999	...	f(-3) = 15	...	14.9997	14.9970	14.9700	14.7000	14.4000

$\lim_{x\to(-3)-} f(x) = 1$, , $\lim_{x\to(-3)+} f(x) = 15$, , $\lim_{x\to(-3)} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = -3"

Ans02 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	7.0000	7.0000	7.0000	7.0000	7.0000	...	f(2) = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000

$\lim_{x\to 2-} f(x) = 7$, , $\lim_{x\to 2+} f(x) = 7$, , $\lim_{x\to 2} f(x) = 7$, , " # f(x) is continuous at x = 2"

Ans03 >

x	5.8000	5.9000	5.9900	5.9990	5.9999	...	a = 6	...	6.0001	6.0010	6.0100	6.1000	6.2000
f(x)	4.0000	4.0000	4.0000	4.0000	4.0000	...	f(6) = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000

$\lim_{x\to 6-} f(x) = 4$, , $\lim_{x\to 6+} f(x) = 3$, , $\lim_{x\to 6} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 6"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-4	0	0	0	0	Continuous
	0	6	6	6	6	Continuous
	2	0	0	0	0	Continuous
	4	-6	-6	-6	-6	Continuous
	-3	15	1	15	DNE	Discontinuous
Ans05	-4	3	3	3	3	Continuous
	0	7	7	7	7	Continuous
	7	27	27	27	27	Continuous
	4	undefined	27	27	27	Discontinuous
	-3	-8	2	-8	DNE	Discontinuous
Ans06	-12	1	1	1	1	Continuous
	-3	1	1	1	1	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	6	2	2	2	2	Continuous
	9	undefined	infinity	infinity	infinity	Discontinuous

Limit02_piecewise Answers for No.10628

Ans01 >

x	-1.2000	-1.1000	-1.0100	-1.0010	-1.0001	...	a = -1	...	-0.9999	-0.9990	-0.9900	-0.9000	-0.8000
f(x)	-6.4000	-6.2000	-6.0200	-6.0020	-6.0002	...	f(-1) = NA	...	3.9995	3.9950	3.9500	3.5000	3.0000

$$\lim_{x\to(-1)-} f(x) = -6, \quad , \lim_{x\to(-1)+} f(x) = 4, \quad , \lim_{x\to(-1)} f(x) = \textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = -1"}$$

Ans02 >

x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(4) = 6	...	5.0001	5.0010	5.0100	5.1000	5.2000

$$\lim_{x\to 4-} f(x) = 6, \quad , \lim_{x\to 4+} f(x) = 5, \quad , \lim_{x\to 4} f(x) = \textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = 4"}$$

Ans03 >

x	6.8000	6.9000	6.9900	6.9990	6.9999	...	a = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(7) = 6	...	5.9999	5.9990	5.9900	5.9000	5.8000

$$\lim_{x\to 7-} f(x) = 6, \quad , \lim_{x\to 7+} f(x) = 6, \quad , \lim_{x\to 7} f(x) = 6, \quad ,\text{" \# f(x) is continuous at x = 7"}$$

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-3	-10	-10	-10	-10	Continuous
	0	-1	-1	-1	-1	Continuous
	5	-26	-26	-26	-26	Continuous
	6	-31	-31	-31	-31	Continuous
	-1	undefined	-6	4	DNE	Discontinuous
Ans05	-6	1	1	1	1	Continuous
	0	3	3	3	3	Continuous
	2	5	5	5	5	Continuous
	5	8	8	-12	DNE	Discontinuous
	-2	1	1	1	1	Continuous
Ans06	-12	1	1	1	1	Continuous
	-9	1	1	1	1	Continuous
	-4	2	2	2	2	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	4	1	1	1	1	Continuous

Limit02_piecewise Answers for No.11408

Ans01 >

x	0.8000	0.9000	0.9900	0.9990	0.9999	...	a = 1	...	1.0001	1.0010	1.0100	1.1000	1.2000
f(x)	-5.8000	-6.4000	-6.9400	-6.9940	-6.9994	...	f(1) = NA	...	3.0005	3.0050	3.0500	3.5000	4.0000

$\lim_{x\to 1-} f(x) = -7$, , $\lim_{x\to 1+} f(x) = 3$, , $\lim_{x\to 1} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 1"

Ans02 >

x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	3.8000	3.9000	3.9900	3.9990	3.9999	...	f(3) = 6	...	6.0000	6.0000	6.0000	6.0000	6.0000

$\lim_{x\to 3-} f(x) = 4$, , $\lim_{x\to 3+} f(x) = 6$, , $\lim_{x\to 3} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 3"

Ans03 >

x	5.8000	5.9000	5.9900	5.9990	5.9999	...	a = 6	...	6.0001	6.0010	6.0100	6.1000	6.2000
f(x)	5.0000	5.0000	5.0000	5.0000	5.0000	...	f(6) = 8	...	4.9999	4.9990	4.9900	4.9000	4.8000

$\lim_{x\to 6-} f(x) = 5$, , $\lim_{x\to 6+} f(x) = 5$, , $\lim_{x\to 6} f(x) = 5$, , " # f(x) is discontinuous at x = 6"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-7	41	41	41	41	Continuous
	-6	35	35	35	35	Continuous
	0	-1	-1	-1	-1	Continuous
	4	18	18	18	18	Continuous
	1	undefined	-7	3	DNE	Discontinuous
Ans05	-4	-16	-16	-16	-16	Continuous
	0	5	5	5	5	Continuous
	5	3	3	3	3	Continuous
	2	3	3	3	3	Continuous
	-2	undefined	-6	7	DNE	Discontinuous
Ans06	-4	2	2	2	2	Continuous
	1	1	1	1	1	Continuous
	3	undefined	-1	-infinity	DNE	Discontinuous
	8	-1	3	3	3	Discontinuous
	12	4	2	2	2	Discontinuous

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Limit02_piecewise Answers for No.11560

Ans01 >

x	-3.2000	-3.1000	-3.0100	-3.0010	-3.0001	...	a = -3	...	-2.9999	-2.9990	-2.9900	-2.9000	-2.8000
f(x)	4.6000	4.3000	4.0300	4.0030	4.0003	...	f(-3) = 4	...	-4.9999	-4.9990	-4.9900	-4.9000	-4.8000

$$\lim_{x\to(-3)-} f(x)=4, \quad , \lim_{x\to(-3)+} f(x)=-5, \quad , \lim_{x\to(-3)} f(x)=\textit{does not exist}, \quad ," \# \text{ f(x) is discontinuous at x = -3}"$$

Ans02 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	7.0000	7.0000	7.0000	7.0000	7.0000	...	f(5) = 7	...	6.9999	6.9990	6.9900	6.9000	6.8000

$$\lim_{x\to 5-} f(x)=7, \quad , \lim_{x\to 5+} f(x)=7, \quad , \lim_{x\to 5} f(x)=7, \quad ," \# \text{ f(x) is continuous at x = 5}"$$

Ans03 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	2.2000	2.1000	2.0100	2.0010	2.0001	...	f(2) = 2	...	5.0000	5.0000	5.0000	5.0000	5.0000

$$\lim_{x\to 2-} f(x)=2, \quad , \lim_{x\to 2+} f(x)=5, \quad , \lim_{x\to 2} f(x)=\textit{does not exist}, \quad ," \# \text{ f(x) is discontinuous at x = 2}"$$

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-5	10	10	10	10	Continuous
	0	-2	-2	-2	-2	Continuous
	5	3	3	3	3	Continuous
	6	4	4	4	4	Continuous
	-3	4	4	-5	DNE	Discontinuous
Ans05	-7	31	31	31	31	Continuous
	0	6	6	6	6	Continuous
	5	8	8	8	8	Continuous
	2	undefined	8	8	8	Discontinuous
	-3	3	15	3	DNE	Discontinuous
Ans06	-12	1	1	1	1	Continuous
	-7	undefined	1	1	1	Discontinuous
	-4	2	2	2	2	Continuous
	4	1	1	1	1	Continuous
	12	4	2	2	2	Discontinuous

Limit02_piecewise Answers for No.11806

Ans01 >

x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	6.2000	6.6000	6.9600	6.9960	6.9996	...	f(3) = 7	...	-17.0005	-17.0050	-17.0500	-17.5000	-18.0000

$\lim_{x \to 3-} f(x) = 7$, , $\lim_{x \to 3+} f(x) = -17$, , $\lim_{x \to 3} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 3"

Ans02 >

x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000
f(x)	9.0000	9.0000	9.0000	9.0000	9.0000	...	f(4) = 9	...	7.0001	7.0010	7.0100	7.1000	7.2000

$\lim_{x \to 4-} f(x) = 9$, , $\lim_{x \to 4+} f(x) = 7$, , $\lim_{x \to 4} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 4"

Ans03 >

x	6.8000	6.9000	6.9900	6.9990	6.9999	...	a = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(7) = 6	...	5.9999	5.9990	5.9900	5.9000	5.8000

$\lim_{x \to 7-} f(x) = 6$, , $\lim_{x \to 7+} f(x) = 6$, , $\lim_{x \to 7} f(x) = 6$, , " # f(x) is continuous at x = 7"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-4	-21	-21	-21	-21	Continuous
	-2	-13	-13	-13	-13	Continuous
	0	-5	-5	-5	-5	Continuous
	2	3	3	3	3	Continuous
	3	7	7	-17	DNE	Discontinuous
Ans05	-3	18	18	18	18	Continuous
	0	10	10	10	10	Continuous
	1	10	10	10	10	Continuous
	5	10	10	16	DNE	Discontinuous
	-1	undefined	10	10	10	Discontinuous
Ans06	-12	1	1	1	1	Continuous
	-10	2	1	2	DNE	Discontinuous
	-6	1	1	1	1	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	8	-1	3	3	3	Discontinuous

Limit02_piecewise Answers for No.12219

Ans01 >

x	0.8000	0.9000	0.9900	0.9990	0.9999	...	a = 1	...	1.0001	1.0010	1.0100	1.1000	1.2000
f(x)	0.4000	-0.3000	-0.9300	-0.9930	-0.9993	...	f(1) = 2	...	2.0004	2.0040	2.0400	2.4000	2.8000

$\lim_{x \to 1-} f(x) = -1$, , $\lim_{x \to 1+} f(x) = 2$, , $\lim_{x \to 1} f(x) = $ *does not exist*, , " # f(x) is discontinuous at x = 1"

Ans02 >

x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(3) = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000

$\lim_{x \to 3-} f(x) = 6$, , $\lim_{x \to 3+} f(x) = 4$, , $\lim_{x \to 3} f(x) = $ *does not exist*, , " # f(x) is discontinuous at x = 3"

Ans03 >

x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	3.8000	3.9000	3.9900	3.9990	3.9999	...	f(3) = 4	...	4.0000	4.0000	4.0000	4.0000	4.0000

$\lim_{x \to 3-} f(x) = 4$, , $\lim_{x \to 3+} f(x) = 4$, , $\lim_{x \to 3} f(x) = 4$, , " # f(x) is continuous at x = 3"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-5	41	41	41	41	Continuous
	-1	13	13	13	13	Continuous
	0	6	6	6	6	Continuous
	6	22	22	22	22	Continuous
	1	2	-1	2	DNE	Discontinuous
Ans05	-2	5	5	5	5	Continuous
	0	3	3	3	3	Continuous
	5	0	0	0	0	Continuous
	3	0	0	0	0	Continuous
	-4	-1	-1	7	DNE	Discontinuous
Ans06	-11	3	1	1	1	Discontinuous
	-8	0	0	0	0	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	1	1	1	1	1	Continuous
	6	2	2	2	2	Continuous

Limit02_piecewise Answers for No.12954

Ans01 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	-0.4000	-0.2000	-0.0200	-0.0020	-0.0002	...	f(2) = NA	...	-5.0003	-5.0030	-5.0300	-5.3000	-5.6000

$\lim_{x \to 2-} f(x) = 0$, , $\lim_{x \to 2+} f(x) = -5$, , $\lim_{x \to 2} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 2"

Ans02 >

x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	6.8000	6.9000	6.9900	6.9990	6.9999	...	f(3) = 6	...	6.0000	6.0000	6.0000	6.0000	6.0000

$\lim_{x \to 3-} f(x) = 7$, , $\lim_{x \to 3+} f(x) = 6$, , $\lim_{x \to 3} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 3"

Ans03 >

x	6.8000	6.9000	6.9900	6.9990	6.9999	...	a = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(7) = 6	...	6.0001	6.0010	6.0100	6.1000	6.2000

$\lim_{x \to 7-} f(x) = 6$, , $\lim_{x \to 7+} f(x) = 6$, , $\lim_{x \to 7} f(x) = 6$, , " # f(x) is continuous at x = 7"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-4	-12	-12	-12	-12	Continuous
	-1	-6	-6	-6	-6	Continuous
	0	-4	-4	-4	-4	Continuous
	3	-8	-8	-8	-8	Continuous
	2	undefined	0	-5	DNE	Discontinuous
Ans05	-6	2	2	2	2	Continuous
	0	1	1	1	1	Continuous
	6	9	9	9	9	Continuous
	2	undefined	-1	1	DNE	Discontinuous
	-1	2	2	2	2	Continuous
Ans06	-8	0	0	0	0	Continuous
	-3	1	1	1	1	Continuous
	2	undefined	0	0	0	Discontinuous
	6	2	2	2	2	Continuous
	8	-1	3	3	3	Discontinuous

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Limit02_piecewise Answers for No.12964

Ans01 >	x	0.8000	0.9000	0.9900	0.9990	0.9999 ...	a =	1 ...	1.0001	1.0010	1.0100	1.1000	1.2000
	f(x)	2.8000	2.9000	2.9900	2.9990	2.9999 ...	f(1) =	NA ...	-5.0004	-5.0040	-5.0400	-5.4000	-5.8000

$\lim_{x \to 1-} f(x) = 3$, , $\lim_{x \to 1+} f(x) = -5$, , $\lim_{x \to 1} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 1"

Ans02 >	x	3.8000	3.9000	3.9900	3.9990	3.9999 ...	a =	4 ...	4.0001	4.0010	4.0100	4.1000	4.2000
	f(x)	4.8000	4.9000	4.9900	4.9990	4.9999 ...	f(4) =	5 ...	5.0000	5.0000	5.0000	5.0000	5.0000

$\lim_{x \to 4-} f(x) = 5$, , $\lim_{x \to 4+} f(x) = 5$, , $\lim_{x \to 4} f(x) = 5$, , " # f(x) is continuous at x = 4"

Ans03 >	x	2.8000	2.9000	2.9900	2.9990	2.9999 ...	a =	3 ...	3.0001	3.0010	3.0100	3.1000	3.2000
	f(x)	1.8000	1.9000	1.9900	1.9990	1.9999 ...	f(3) =	4 ...	4.0000	4.0000	4.0000	4.0000	4.0000

$\lim_{x \to 3-} f(x) = 2$, , $\lim_{x \to 3+} f(x) = 4$, , $\lim_{x \to 3} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 3"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-7	-5	-5	-5	-5	Continuous
	-3	-1	-1	-1	-1	Continuous
	0	2	2	2	2	Continuous
	4	-17	-17	-17	-17	Continuous
	1	undefined	3	-5	DNE	Discontinuous
Ans05	-6	-10	-10	-10	-10	Continuous
	0	-14	-14	-14	-14	Continuous
	1	-14	-14	-14	-14	Continuous
	4	-14	-14	-14	-14	Continuous
	-2	-14	-6	-14	DNE	Discontinuous
Ans06	-9	1	1	1	1	Continuous
	-7	undefined	1	1	1	Discontinuous
	-4	2	2	2	2	Continuous
	-3	1	1	1	1	Continuous
	1	1	1	1	1	Continuous

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Limit02_piecewise Answers for No.12971

Ans01 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	-13.8000	-14.4000	-14.9400	-14.9940	-14.9994	...	f(2) = 15	...	15.0007	15.0070	15.0700	15.7000	16.4000

$\lim_{x \to 2-} f(x) = -15$, , $\lim_{x \to 2+} f(x) = 15$, , $\lim_{x \to 2} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 2"

Ans02 >

x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000
f(x)	8.0000	8.0000	8.0000	8.0000	8.0000	...	f(4) = 7	...	6.9999	6.9990	6.9900	6.9000	6.8000

$\lim_{x \to 4-} f(x) = 8$, , $\lim_{x \to 4+} f(x) = 7$, , $\lim_{x \to 4} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 4"

Ans03 >

x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000
f(x)	4.2000	4.1000	4.0100	4.0010	4.0001	...	f(4) = 4	...	4.0000	4.0000	4.0000	4.0000	4.0000

$\lim_{x \to 4-} f(x) = 4$, , $\lim_{x \to 4+} f(x) = 4$, , $\lim_{x \to 4} f(x) = 4$, , " # f(x) is continuous at x = 4"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-7	39	39	39	39	Continuous
	-6	33	33	33	33	Continuous
	0	-3	-3	-3	-3	Continuous
	5	36	36	36	36	Continuous
	2	15	-15	15	DNE	Discontinuous
Ans05	-5	25	25	25	25	Continuous
	0	6	6	6	6	Continuous
	6	10	10	10	10	Continuous
	2	10	10	10	10	Continuous
	-2	13	13	2	DNE	Discontinuous
Ans06	-10	2	1	2	DNE	Discontinuous
	-8	0	0	0	0	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	0	5	2	2	2	Discontinuous
	9	undefined	infinity	infinity	infinity	Discontinuous

Limit02_piecewise Answers for No.13023

Ans01 >	x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a =	3	...	3.0001	3.0010	3.0100	3.1000	3.2000
	f(x)	4.6000	4.8000	4.9800	4.9980	4.9998	...	f(3) =	5	...	-21.0005	-21.0050	-21.0500	-21.5000	-22.0000

$$\lim_{x\to 3-} f(x) = 5, \quad , \lim_{x\to 3+} f(x) = \text{-}21, \quad , \lim_{x\to 3} f(x) = \textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = 3"}$$

Ans02 >	x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a =	3	...	3.0001	3.0010	3.0100	3.1000	3.2000
	f(x)	3.8000	3.9000	3.9900	3.9990	3.9999	...	f(3) =	4	...	4.0000	4.0000	4.0000	4.0000	4.0000

$$\lim_{x\to 3-} f(x) = 4, \quad , \lim_{x\to 3+} f(x) = 4, \quad , \lim_{x\to 3} f(x) = 4, \quad ,\text{" \# f(x) is continuous at x = 3"}$$

Ans03 >	x	5.8000	5.9000	5.9900	5.9990	5.9999	...	a =	6	...	6.0001	6.0010	6.0100	6.1000	6.2000
	f(x)	4.0000	4.0000	4.0000	4.0000	4.0000	...	f(6) =	4	...	6.9999	6.9990	6.9900	6.9000	6.8000

$$\lim_{x\to 6-} f(x) = 4, \quad , \lim_{x\to 6+} f(x) = 7, \quad , \lim_{x\to 6} f(x) = \textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = 6"}$$

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-2	-5	-5	-5	-5	Continuous
	-1	-3	-3	-3	-3	Continuous
	0	-1	-1	-1	-1	Continuous
	2	3	3	3	3	Continuous
	3	5	5	-21	DNE	Discontinuous
Ans05	-3	1	1	1	1	Continuous
	0	1	1	1	1	Continuous
	6	10	10	10	10	Continuous
	3	undefined	10	10	10	Discontinuous
	-2	-5	0	-5	DNE	Discontinuous
Ans06	-10	2	1	2	DNE	Discontinuous
	-8	0	0	0	0	Continuous
	-4	2	2	2	2	Continuous
	-2	2	2	2	2	Continuous
	4	1	1	1	1	Continuous

Limit02_piecewise Answers for No.13033

Ans01 >

x	-2.2000	-2.1000	-2.0100	-2.0010	-2.0001	...	a = -2	...	-1.9999	-1.9990	-1.9900	-1.9000	-1.8000
f(x)	-1.6000	-1.8000	-1.9800	-1.9980	-1.9998	...	f(-2) = -10	...	-9.9997	-9.9970	-9.9700	-9.7000	-9.4000

$$\lim_{x \to (-2)-} f(x) = -2, \quad , \lim_{x \to (-2)+} f(x) = -10, \quad , \lim_{x \to (-2)} f(x) = \textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = -2"}$$

Ans02 >

x	1.8000	1.9000	1.9900	1.9990	1.9999	...	a = 2	...	2.0001	2.0010	2.0100	2.1000	2.2000
f(x)	2.0000	2.0000	2.0000	2.0000	2.0000	...	f(2) = 3	...	2.9999	2.9990	2.9900	2.9000	2.8000

$$\lim_{x \to 2-} f(x) = 2, \quad , \lim_{x \to 2+} f(x) = 3, \quad , \lim_{x \to 2} f(x) = \textit{does not exist}, \quad ,\text{" \# f(x) is discontinuous at x = 2"}$$

Ans03 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	5.2000	5.1000	5.0100	5.0010	5.0001	...	f(5) = 5	...	5.0000	5.0000	5.0000	5.0000	5.0000

$$\lim_{x \to 5-} f(x) = 5, \quad , \lim_{x \to 5+} f(x) = 5, \quad , \lim_{x \to 5} f(x) = 5, \quad ,\text{" \# f(x) is continuous at x = 5"}$$

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-4	2	2	2	2	Continuous
	0	-4	-4	-4	-4	Continuous
	5	11	11	11	11	Continuous
	7	17	17	17	17	Continuous
	-2	-10	-2	-10	DNE	Discontinuous
Ans05	-6	17	17	17	17	Continuous
	0	14	14	14	14	Continuous
	4	14	14	14	14	Continuous
	5	16	14	16	DNE	Discontinuous
	-5	undefined	14	14	14	Discontinuous
Ans06	-5	1	1	infinity	DNE	Discontinuous
	-3	1	1	1	1	Continuous
	6	2	2	2	2	Continuous
	9	undefined	infinity	infinity	infinity	Discontinuous
	12	4	2	2	2	Discontinuous

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Limit02_piecewise Answers for No.13197

Ans01 >

x	-3.2000	-3.1000	-3.0100	-3.0010	-3.0001	...	a = -3	...	-2.9999	-2.9990	-2.9900	-2.9000	-2.8000
f(x)	-12.4000	-12.2000	-12.0200	-12.0020	-12.0002	...	f(-3) = -12	...	11.9997	11.9970	11.9700	11.7000	11.4000

$\lim\limits_{x \to (-3)-} f(x) = -12$, , $\lim\limits_{x \to (-3)+} f(x) = 12$, , $\lim\limits_{x \to (-3)} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = -3"

Ans02 >

x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a = 4	...	4.0001	4.0010	4.0100	4.1000	4.2000
f(x)	7.2000	7.1000	7.0100	7.0010	7.0001	...	f(4) = 9	...	9.0000	9.0000	9.0000	9.0000	9.0000

$\lim\limits_{x \to 4-} f(x) = 7$, , $\lim\limits_{x \to 4+} f(x) = 9$, , $\lim\limits_{x \to 4} f(x) =$ *does not exist*, , " # f(x) is discontinuous at x = 4"

Ans03 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	5.0000	5.0000	5.0000	5.0000	5.0000	...	f(5) = 5	...	4.9999	4.9990	4.9900	4.9000	4.8000

$\lim\limits_{x \to 5-} f(x) = 5$, , $\lim\limits_{x \to 5+} f(x) = 5$, , $\lim\limits_{x \to 5} f(x) = 5$, , " # f(x) is continuous at x = 5"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-7	-20	-20	-20	-20	Continuous
	0	3	3	3	3	Continuous
	2	-3	-3	-3	-3	Continuous
	3	-6	-6	-6	-6	Continuous
	-3	-12	-12	12	DNE	Discontinuous
Ans05	-2	1	1	1	1	Continuous
	0	1	1	1	1	Continuous
	5	10	10	10	10	Continuous
	2	undefined	1	1	1	Discontinuous
	-3	10	10	1	DNE	Discontinuous
Ans06	-11	3	1	1	1	Discontinuous
	-10	2	1	2	DNE	Discontinuous
	-7	undefined	1	1	1	Discontinuous
	8	-1	3	3	3	Discontinuous
	10	0	3	3	3	Discontinuous

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Limit02_piecewise Answers for No.13907

Ans01 >

x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	-6.8000	-6.9000	-6.9900	-6.9990	-6.9999	...	f(3) = NA	...	14.0005	14.0050	14.0500	14.5000	15.0000

$\lim_{x \to 3-} f(x) = -7,$, $\lim_{x \to 3+} f(x) = 14,$, $\lim_{x \to 3} f(x) = \textit{does not exist},$, " # f(x) is discontinuous at x = 3"

Ans02 >

x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	5.0000	5.0000	5.0000	5.0000	5.0000	...	f(3) = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000

$\lim_{x \to 3-} f(x) = 5,$, $\lim_{x \to 3+} f(x) = 5,$, $\lim_{x \to 3} f(x) = 5,$, " # f(x) is continuous at x = 3"

Ans03 >

x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a = 5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	7.8000	7.9000	7.9900	7.9990	7.9999	...	f(5) = 8	...	6.0000	6.0000	6.0000	6.0000	6.0000

$\lim_{x \to 5-} f(x) = 8,$, $\lim_{x \to 5+} f(x) = 6,$, $\lim_{x \to 5} f(x) = \textit{does not exist},$, " # f(x) is discontinuous at x = 5"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-2	-2	-2	-2	-2	Continuous
	-1	-3	-3	-3	-3	Continuous
	0	-4	-4	-4	-4	Continuous
	2	-6	-6	-6	-6	Continuous
	3	undefined	-7	14	DNE	Discontinuous
Ans05	-4	-3	-3	-3	-3	Continuous
	0	-5	-5	-5	-5	Continuous
	7	16	16	16	16	Continuous
	3	-5	-5	8	DNE	Discontinuous
	-2	undefined	-5	-5	-5	Discontinuous
Ans06	-1	undefined	infinity	1	DNE	Discontinuous
	4	1	1	1	1	Continuous
	8	-1	3	3	3	Discontinuous
	10	0	3	3	3	Discontinuous
	12	4	2	2	2	Discontinuous

Limit02_piecewise Answers for No.13991

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Ans01 >    x   | -2.2000| -2.1000| -2.0100| -2.0010| -2.0001|...|    a   =  -2 |...| -1.9999| -1.9990| -1.9900| -1.9000| -1.8000|
         f(x)  | 12.0000| 11.5000| 11.0500| 11.0050| 11.0005|...| f(-2)  = -16 |...|-15.9993|-15.9930|-15.9300|-15.3000|-14.6000|
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$$\lim_{x \to (-2)-} f(x) = 11, \quad , \lim_{x \to (-2)+} f(x) = -16, \quad , \lim_{x \to (-2)} f(x) = \textit{does not exist}, \quad ," \text{ \# f(x) is discontinuous at x = -2"}$$

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Ans02 >    x   |  2.8000|  2.9000|  2.9900|  2.9990|  2.9999|...|    a   =   3 |...|  3.0001|  3.0010|  3.0100|  3.1000|  3.2000|
         f(x)  |  5.2000|  5.1000|  5.0100|  5.0010|  5.0001|...| f( 3)  =   5 |...|  5.0000|  5.0000|  5.0000|  5.0000|  5.0000|
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$$\lim_{x \to 3-} f(x) = 5, \quad , \lim_{x \to 3+} f(x) = 5, \quad , \lim_{x \to 3} f(x) = 5, \quad ," \text{ \# f(x) is continuous at x = 3"}$$

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Ans03 >    x   |  2.8000|  2.9000|  2.9900|  2.9990|  2.9999|...|    a   =   3 |...|  3.0001|  3.0010|  3.0100|  3.1000|  3.2000|
         f(x)  |  3.2000|  3.1000|  3.0100|  3.0010|  3.0001|...| f( 3)  =   5 |...|  5.0000|  5.0000|  5.0000|  5.0000|  5.0000|
```

$$\lim_{x \to 3-} f(x) = 3, \quad , \lim_{x \to 3+} f(x) = 5, \quad , \lim_{x \to 3} f(x) = \textit{does not exist}, \quad ," \text{ \# f(x) is discontinuous at x = 3"}$$

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-5	26	26	26	26	Continuous
	0	-2	-2	-2	-2	Continuous
	3	19	19	19	19	Continuous
	7	47	47	47	47	Continuous
	-2	-16	11	-16	DNE	Discontinuous
Ans05	-3	-22	-22	-22	-22	Continuous
	0	-5	-5	-5	-5	Continuous
	2	-9	-9	-9	-9	Continuous
	3	-11	-11	-11	-11	Continuous
	-2	undefined	-17	-1	DNE	Discontinuous
Ans06	-12	1	1	1	1	Continuous
	-6	1	1	1	1	Continuous
	-4	2	2	2	2	Continuous
	-1	undefined	infinity	1	DNE	Discontinuous
	0	5	2	2	2	Discontinuous

Limit02_piecewise Answers for No.14005

Ans01 >													
x	-1.2000	-1.1000	-1.0100	-1.0010	-1.0001	...	a = -1	...	-0.9999	-0.9990	-0.9900	-0.9000	-0.8000
f(x)	-1.8000	-1.4000	-1.0400	-1.0040	-1.0004	...	f(-1) = 8	...	7.9999	7.9990	7.9900	7.9000	7.8000

$\lim_{x \to (-1)-} f(x) = -1$, , $\lim_{x \to (-1)+} f(x) = 8$, , $\lim_{x \to (-1)} f(x) = \textit{does not exist}$, , " # f(x) is discontinuous at x = -1"

Ans02 >													
x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a = 3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	3.8000	3.9000	3.9900	3.9990	3.9999	...	f(3) = 4	...	4.0000	4.0000	4.0000	4.0000	4.0000

$\lim_{x \to 3-} f(x) = 4$, , $\lim_{x \to 3+} f(x) = 4$, , $\lim_{x \to 3} f(x) = 4$, , " # f(x) is continuous at x = 3"

Ans03 >													
x	6.8000	6.9000	6.9900	6.9990	6.9999	...	a = 7	...	7.0001	7.0010	7.0100	7.1000	7.2000
f(x)	6.0000	6.0000	6.0000	6.0000	6.0000	...	f(7) = 5	...	4.9999	4.9990	4.9900	4.9000	4.8000

$\lim_{x \to 7-} f(x) = 6$, , $\lim_{x \to 7+} f(x) = 5$, , $\lim_{x \to 7} f(x) = \textit{does not exist}$, , " # f(x) is discontinuous at x = 7"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-6	-21	-21	-21	-21	Continuous
	0	7	7	7	7	Continuous
	2	5	5	5	5	Continuous
	5	2	2	2	2	Continuous
	-1	8	-1	8	DNE	Discontinuous
Ans05	-3	2	2	2	2	Continuous
	0	-4	-4	-4	-4	Continuous
	1	-7	-7	-7	-7	Continuous
	2	-10	-10	8	DNE	Discontinuous
	-2	undefined	2	2	2	Discontinuous
Ans06	-5	1	1	infinity	DNE	Discontinuous
	-4	2	2	2	2	Continuous
	0	5	2	2	2	Discontinuous
	3	undefined	-1	-infinity	DNE	Discontinuous
	4	1	1	1	1	Continuous

Limit02_piecewise Answers for No.14157

Ans01 >

						...			...					
x	2.8000	2.9000	2.9900	2.9990	2.9999	...	a =	3	...	3.0001	3.0010	3.0100	3.1000	3.2000
f(x)	5.4000	5.7000	5.9700	5.9970	5.9997	...	f(3) =	-3	...	-3.0001	-3.0010	-3.0100	-3.1000	-3.2000

$\lim_{x \to 3-} f(x) = 6,\ ,\ \lim_{x \to 3+} f(x) = -3,\ ,\ \lim_{x \to 3} f(x) = \textit{does not exist},\ ,$ " # f(x) is discontinuous at x = 3"

Ans02 >

						...			...					
x	4.8000	4.9000	4.9900	4.9990	4.9999	...	a =	5	...	5.0001	5.0010	5.0100	5.1000	5.2000
f(x)	6.8000	6.9000	6.9900	6.9990	6.9999	...	f(5) =	7	...	5.0000	5.0000	5.0000	5.0000	5.0000

$\lim_{x \to 5-} f(x) = 7,\ ,\ \lim_{x \to 5+} f(x) = 5,\ ,\ \lim_{x \to 5} f(x) = \textit{does not exist},\ ,$ " # f(x) is discontinuous at x = 5"

Ans03 >

						...			...					
x	3.8000	3.9000	3.9900	3.9990	3.9999	...	a =	4	...	4.0001	4.0010	4.0100	4.1000	4.2000
f(x)	4.2000	4.1000	4.0100	4.0010	4.0001	...	f(4) =	4	...	4.0000	4.0000	4.0000	4.0000	4.0000

$\lim_{x \to 4-} f(x) = 4,\ ,\ \lim_{x \to 4+} f(x) = 4,\ ,\ \lim_{x \to 4} f(x) = 4,\ ,$ " # f(x) is continuous at x = 4"

	a	f(a)	LH-Limit	RH-Limit	Limit	Continuity
Ans04	-7	-24	-24	-24	-24	Continuous
	-4	-15	-15	-15	-15	Continuous
	0	-3	-3	-3	-3	Continuous
	2	3	3	3	3	Continuous
	3	-3	6	-3	DNE	Discontinuous
Ans05	-1	-1	-1	-1	-1	Continuous
	0	-3	-3	-3	-3	Continuous
	3	-5	-5	-5	-5	Continuous
	1	-5	-5	-5	-5	Continuous
	-2	-7	-7	1	DNE	Discontinuous
Ans06	-5	1	1	infinity	DNE	Discontinuous
	-4	2	2	2	2	Continuous
	-3	1	1	1	1	Continuous
	1	1	1	1	1	Continuous
	3	undefined	-1	-infinity	DNE	Discontinuous

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