

Evaluate limits algebraically

1

Use the table to find the value $f(x)$ approaches as x gets closer to 2.

x	1.9	1.99	1.999	2	2.001	2.01	2.1
$f(x)$	0.1	0.01	0.001	-2	-0.001	-0.01	-0.1

A

$$\lim_{x \rightarrow 2} f(x) = 1$$

B

$$\lim_{x \rightarrow 2} f(x) = -1$$

C

$$\lim_{x \rightarrow 2} f(x) = 0$$

D

$$\lim_{x \rightarrow 2} f(x) = 2$$

2

Use the table to find the value $f(x)$ approaches as x approaches 1, and the value of $f(1)$.

x	0.9	0.99	0.999	1	1.001	1.01	1.1
$f(x)$	2.8	2.98	2.998	0	3.002	3.02	3.2

A

$$\lim_{x \rightarrow 1} f(x) = 3, f(1) = 3$$

B

$$\lim_{x \rightarrow 1} f(x) = 3, f(1) = 0$$

C

$$\lim_{x \rightarrow 1} f(x) = 0, f(1) = 0$$

D

$$\lim_{x \rightarrow 1} f(x) = 0, f(1) = 3$$

3

Use the table to evaluate $\lim_{x \rightarrow 2} f(x)$.

x	1.9	1.99	1.999	2	2.001	2.01	2.1
$f(x)$	0.9	0.99	0.999	undefined	1.001	1.01	1.1

A

$$\lim_{x \rightarrow 2} f(x) = 0$$

B

$$\lim_{x \rightarrow 2} f(x) = 3$$

C

$$\lim_{x \rightarrow 2} f(x) = 1$$

D

$$\lim_{x \rightarrow 2} f(x) = 2$$

4

Use the table to evaluate $\lim_{x \rightarrow -1} f(x)$.

x	-1.1	-1.01	-1.001	-1	-0.999	-0.99	-0.9
$f(x)$	0.2	0.02	0.002	-3	-0.002	-0.02	-0.2

A

$$\lim_{x \rightarrow -1} f(x) = -1$$

B

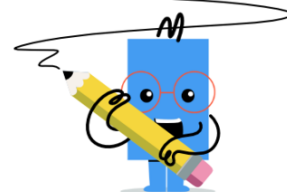
$$\lim_{x \rightarrow -1} f(x) = 2$$

C

$$\lim_{x \rightarrow -1} f(x) = 0$$

D

$$\lim_{x \rightarrow -1} f(x) = 1$$



Evaluate limits algebraically

5

Use the table to evaluate $\lim_{x \rightarrow 0} f(x)$ (the two-sided limit).

x	-0.1	-0.01	-0.001	0	0.001	0.01	0.1
f(x)	-0.2	-0.02	-0.002	-3	-0.001	-0.01	-0.1

A

$$\lim_{x \rightarrow 0} f(x) = 0$$

B

$$\lim_{x \rightarrow 0} f(x) = -1$$

C

$$\lim_{x \rightarrow 0} f(x) = 1$$

D

$$\lim_{x \rightarrow 0} f(x) = 2$$

6

Evaluate the limit.

$$\lim_{x \rightarrow -2} (2x^2 - x + 4)$$

A

14

B

15

C

13

D

16

7

Evaluate the limit.

$$\lim_{x \rightarrow 3} \frac{2x + 2}{2x + 4}$$

A

 $\frac{9}{10}$

B

 $\frac{5}{4}$

C

 $\frac{4}{5}$

D

 $-\frac{4}{5}$ **8**

Multiply by the conjugate, manipulate and cancel, then evaluate the limit.

$$\lim_{x \rightarrow 3} \frac{x - 3}{\sqrt{x - 2} - 1}$$

A

1

B

2

C

3

D

4

9

Multiply by the conjugate, cancel, then evaluate the limit.

$$\lim_{x \rightarrow 1} \frac{\sqrt{x + 8} - 3}{x - 1}$$

A

 $\frac{1}{6}$

B

 $\frac{1}{3}$

C

6

D

 $-\frac{1}{6}$ **10**

Factor and cancel, then evaluate the limit.

$$\lim_{x \rightarrow 2} \frac{x^2 - 4}{x - 2}$$

A

3

B

6

C

5

D

4

11

Evaluate the limit.

$$\lim_{x \rightarrow -1} (-2x^2 - 3x - 4)$$

A

-4

B

-3

C

-2

D

-1