

Algebraic Limits**Evaluate each limit.**

1) $\lim_{x \rightarrow 3} -\frac{x-3}{x^2 - 5x + 6}$

-1

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

-3

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

 $\frac{1}{2}$

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

-1

5) $\lim_{x \rightarrow -3} f(x), f(x) = \begin{cases} -\frac{x}{2}, & x \neq -3 \\ 0, & x = -3 \end{cases}$

 $\frac{3}{2}$

6) $\lim_{x \rightarrow -3} f(x), f(x) = \begin{cases} 2 + \frac{x}{2}, & x \neq -3 \\ 3, & x = -3 \end{cases}$

 $\frac{1}{2}$

7) $\lim_{x \rightarrow 3} f(x), f(x) = \begin{cases} -x^2 + 2x + 2, & x \neq 3 \\ 0, & x = 3 \end{cases}$

-1

8) $\lim_{x \rightarrow 3} f(x), f(x) = \begin{cases} x^2 - 8x + 15, & x \neq 3 \\ -4, & x = 3 \end{cases}$

0

9) $\lim_{x \rightarrow -2} (-x - 3)$

-1

10) $\lim_{x \rightarrow 1} -3$

-3

11) $\lim_{x \rightarrow 1} (x + 4)$

5

12) $\lim_{x \rightarrow -2} -x$

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