Limits — Mixed

Name: _____ Date: _____

Find each limit. Substitute first; what you get decides the next move.

1. $\lim_{x \to -2} (-x^2 - 2x - 3)$

   $= -(-2)^2 - 2(-2) - 3$
   $= -4 + 4 - 3$
   $= -3$

2. $\lim_{x \to -1} (-x^2 - 2x - 3)$

3. $\lim_{x \to \infty} \dfrac{2x + 3}{x^2 - 2}$

4. $\lim_{x \to -3} \dfrac{x^2 + x - 6}{x^2 + 2x - 3}$

5. $\lim_{x \to -2} \dfrac{x^2 + x - 2}{x^2 - x - 6}$

6. $\lim_{x \to \infty} \dfrac{-2x}{3x + 3}$

Limits · Mixed — Answer key

1. $\lim_{x \to -2} (-x^2 - 2x - 3) = -3$

2. $\lim_{x \to -1} (-x^2 - 2x - 3) = -2$

3. $\lim_{x \to \infty} \frac{2x + 3}{x^2 - 2} = 0$

4. $\lim_{x \to -3} \frac{x^2 + x - 6}{x^2 + 2x - 3} = \frac{5}{4}$

5. $\lim_{x \to -2} \frac{x^2 + x - 2}{x^2 - x - 6} = \frac{3}{5}$

6. $\lim_{x \to \infty} \frac{-2x}{3x + 3} = -\frac{2}{3}$