Name_____

Ch 1 Hwk #2 One-sided Limits & Continuity

Date_____ Period_____

Evaluate each limit.
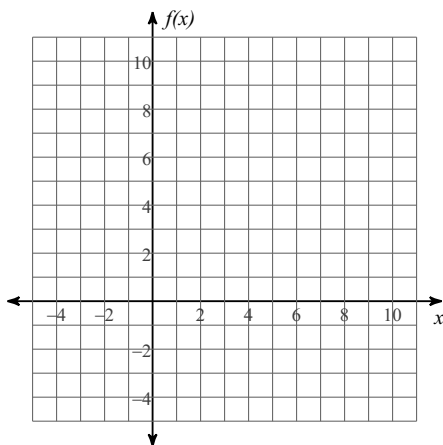
1) $\lim\limits_{x \to \pi^+} 2\csc(x)$
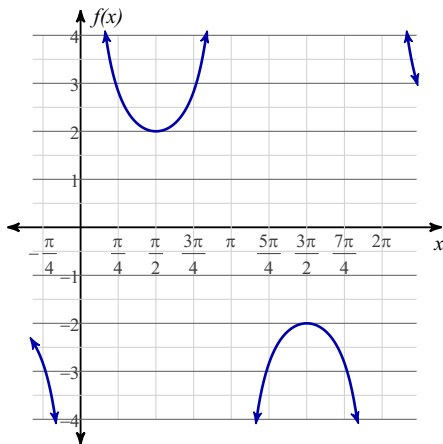
2) $\lim\limits_{x \to \frac{3}{2}^+} -\dfrac{1}{2x - 3}$
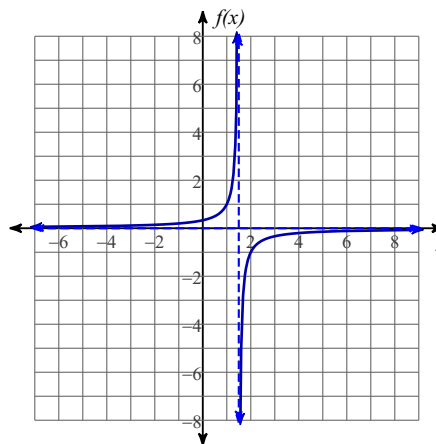
Evaluate each limit. You may use the provided graph to sketch the function.
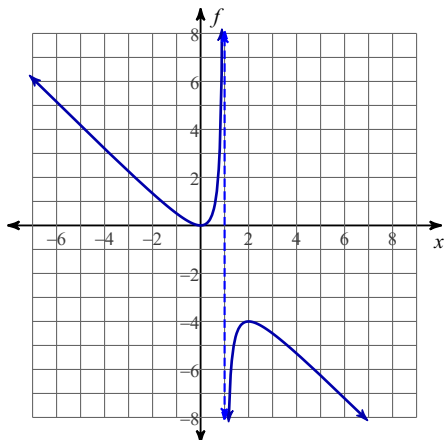
3) $\lim\limits_{x \to 3^+} \dfrac{3x}{x - 3}$

Evaluate each limit.

4) $\lim\limits_{x \to -2^-} -\dfrac{2}{x + 2}$

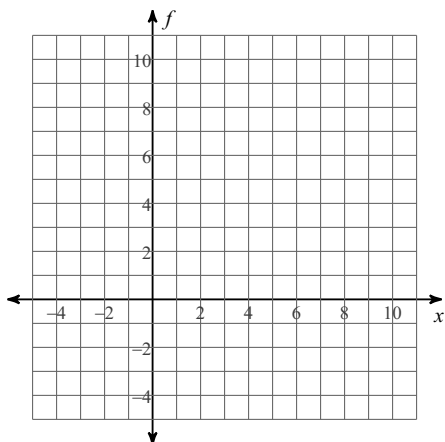5) $\lim\limits_{x \to -\frac{1}{2}^-} \dfrac{x - 3}{2x^2 - 5x - 3}$

Find the intervals on which each function is continuous.

6) $f(x) = -\dfrac{x^2}{x-1}$

Find the intervals on which each function is continuous. You may use the provided graph to sketch the function.

7) $f(x) = \begin{cases} \dfrac{x}{2} + \dfrac{1}{2}, & x \le 3 \\ 2x - 1, & x > 3 \end{cases}$

Find the intervals on which each function is continuous. Classify the discountinuites are removable or nonremovable.

8) $f(x) = -\dfrac{x}{x^2 - 3x}$

9) $f(x) = \begin{cases} 2x - 7, & x < 0 \\ x - 4, & x \ge 0 \end{cases}$