Limits Involving Infinity (Answer Equals Infinity)

Step 1: Substitute the value into limit.
Step 2: If the value is approaching from the left, choose a value to the left.
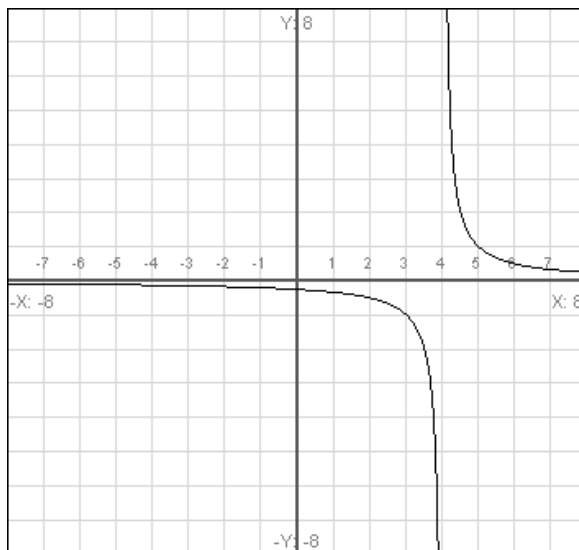   If the value is approaching from the right, choose a value to the right.
Step 3: The answer is either negative infinity or positive infinity, depending on the signs.

Directions: Evaluate each limit.

1) $\displaystyle \lim_{x \to 4^-} \frac{1}{x-4} =$

2) $\displaystyle \lim_{x \to 4^+} \frac{1}{x-4} =$

3) $\displaystyle \lim_{x \to 4} \frac{1}{x-4} =$

4) $\displaystyle \lim_{x \to -2^-} \frac{1}{(x+2)^3} =$

5) $\displaystyle \lim_{x \to 2^+} \frac{x-3}{x-2} =$

6) $\displaystyle\lim_{x\to-1^-}\frac{x}{1-x^2}=$

7) $\displaystyle\lim_{x\to4^-}\frac{3-x}{x^2-2x-8}=$