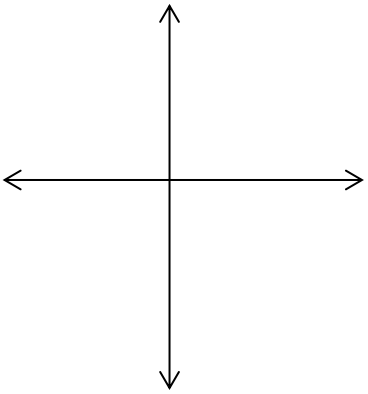
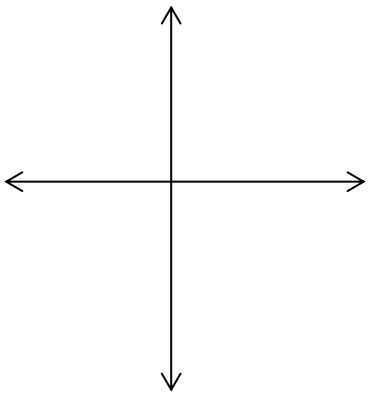
Pre-Calculus **1.3 Practice** **Name:**_____

Use your graphing calculator to graph each function. Sketch a graph of each equation. <u>Draw in asymptotes as well.</u> Then, determine whether the given function is continuous. If discontinuous, identify the type of discontinuity as infinite, jump, or removable.

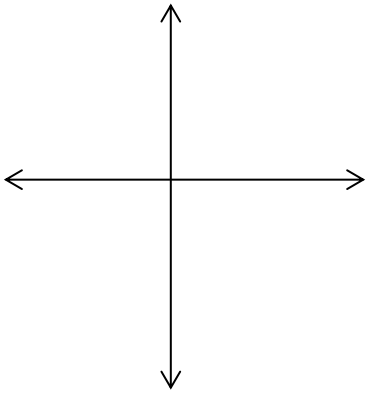
1) $f(x) = \frac{1}{x-2}$



2) $f(x) = -4x^3 + 2x - 1$



3) $f(x) = \frac{2x-1}{x+1}$

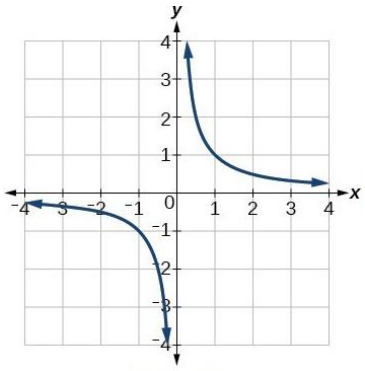


Match each graph or equation with the correct end behavior from the box.

4) $f(x) = -3x^3 - 2x + 1$

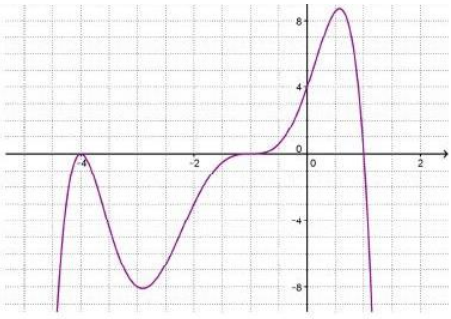
5) $f(x) = 2x^5 + 3x^2 - x + 1$

6)



7) $f(x) = x^4 + 2x - 1$

8)



A) Left: $\lim_{x\to-\infty} f(x) = \infty$;
Right: $\lim_{x\to\infty} f(x) = \infty$

B) Left: $\lim_{x\to-\infty} f(x) = -\infty$;
Right: $\lim_{x\to\infty} f(x) = -\infty$

C) Left: $\lim_{x\to-\infty} f(x) = -\infty$;
Right: $\lim_{x\to\infty} f(x) = \infty$

D) Left: $\lim_{x\to-\infty} f(x) = \infty$;
Right: $\lim_{x\to\infty} f(x) = -\infty$

E) Left: $\lim_{x\to-\infty} f(x) = 0$;
Right: $\lim_{x\to\infty} f(x) = 0$