Name ___Solutions_____ Calculus I, Spring 2017, Quiz 2
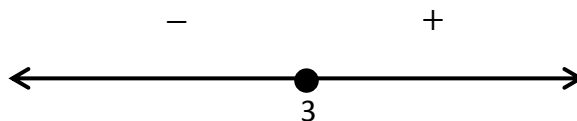
1) Find the limit below.

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

2) Find the limit below.

$$\lim_{x \to 3^-} \frac{x^2 - x - 5}{x - 3} = -\infty$$

The denominator goes to zero, while negative.
The numerator does not go to zero, while positive.

3) Use the graph to find each of the limits below.

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

$$\lim_{x \to 2^+} f(x) = \infty$$

$$\lim_{x \to 2} f(x) \text{ DNE}$$