Name: _____   Date: _____

Learning Goal 2.1	Finite limits and continuity.

There are **three** methods that we looked at for computing limits last day:
1.   2.   3.

We will apply these methods to **four** different types of limits:
1.   2.   3.   4.

We say that the limit of $f(x)$ is L as x approaches a and write
$$\lim_{x \to a} f(x) = L,$$
provided we can make $f(x)$ as close to L as we want for all x sufficiently close to a, from both sides without letting x be a.

Numerical
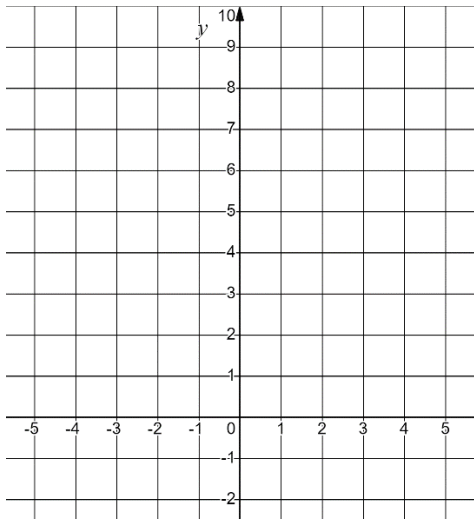
Example Determine each limit numerically.

a. $\lim_{x \to 3} x^2$

b. $\lim_{x \to 2} \dfrac{x}{x - 2}$

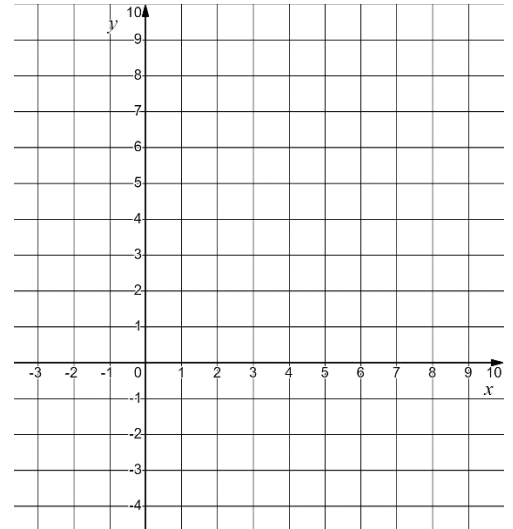**Graphically**

Example Verify the above limits graphically.

a. $\lim\limits_{x \to 3} x^2$

b. $\lim\limits_{x \to 2} \dfrac{x}{x - 2}$

Example Use the graph of the function to determine the limit.

$$\lim_{x \to 2} \frac{x^2 + 4x - 12}{x^2 - 2x}$$