Formal Definition of Limits Name____________________

1. Find the limit L Then find $\delta > 0 \ni |f(x) - L| < 0.01$ whenever $0 < |x - c| < \delta$.

$$\lim_{x\to5}(2x-3)$$

2. Find the limit L Then find $\delta > 0 \ni |f(x) - L| < 0.01$ whenever $0 < |x - c| < \delta$.

$$\lim_{x\to8}(8-\frac{x}{4})$$

3. Find the limit L Then find $\delta > 0 \ni |f(x) - L| < 0.01$ whenever $0 < |x - c| < \delta$.

$$\lim_{x\to3}(x^2-7)$$

4. Find the limit L Then find $\delta > 0 \ni |f(x) - L| < 0.01$ whenever $0 < |x - c| < \delta$.

$$\lim_{x\to2}(x^2+3)$$

5. Find the limit L Then use the ε - δ definition to prove that the limit is L.

$$\lim_{x\to6}(x-2)$$

6. Find the limit L Then use the ε - δ definition to prove that the limit is L.

$$\lim_{x\to-2}(5x+8)$$

7. Find the limit L Then use the ε - δ definition to prove that the limit is L.

$$\lim_{x\to-6}(\frac{1}{2}x+1)$$

8. Find the limit L Then use the ε - δ definition to prove that the limit is L.

$$\lim_{x\to1}(\frac{2}{3}x+3)$$

9. Find the limit L Then use the ε - δ definition to prove that the limit is L.

$$\lim_{x\to7}2$$

10. Find the limit L Then find $\delta > 0 \ni |f(x) - L| < 0.01$ whenever $0 < |x - c| < \delta$.

$$\lim_{x\to5}|x-5|$$