Name: _____   Date: _____

Learning Goal 2.1	Finite limits and continuity.

Limit Laws

Assuming $\lim\limits_{x \to a} f(x)$ and $\lim\limits_{x \to a} g(x)$ exist and c is a constant, then:

1. $\lim\limits_{x \to a} cf(x) = c \lim\limits_{x \to a} f(x)$

2. $\lim\limits_{x \to a} f(x) \pm g(x) = \lim\limits_{x \to a} f(x) \pm \lim\limits_{x \to a} g(x)$

3. $\lim\limits_{x \to a} f(x) \times g(x) = \lim\limits_{x \to a} f(x) \times \lim\limits_{x \to a} g(x)$

4. $\lim\limits_{x \to a} \dfrac{f(x)}{g(x)} = \dfrac{\lim\limits_{x \to a} f(x)}{\lim\limits_{x \to a} g(x)}$ if $g(x) \neq 0$

5. $\lim\limits_{x \to a} (f(x))^n = \left(\lim\limits_{x \to a} f(x) \right)^n$ where $n \in \mathbb{R}$

6. $\lim\limits_{x \to a} c = c$ where $c \in \mathbb{R}$

7. $\lim\limits_{x \to a} \sqrt[n]{f(x)} = \sqrt[n]{\lim\limits_{x \to a} f(x)}$ where $n \in \mathbb{N}$

Assignment   # 13, 11 – 33, 43 – 51, 48   Quiz Next Day!