Unit #5: Limits
Topic: Trigonometry Limits
Objective: SWBAT find limits of trig functions by using the properties of limits.

Warm Up #7:

Evaluate each of the following limits:

1) $\lim\limits_{x\to 0} \dfrac{cos^2x}{2} =$

2) $\lim\limits_{x\to\infty} sinx =$

3) $\lim\limits_{x\to\pi} \dfrac{\sqrt{x}}{cscx} =$

Trig Limits

There are two special trig limits that we need to know.

Why are these true?

Now, let's see how we can use these limits.

Many other trig limits can be found by rewriting them to look like the limits given above.

Examples: Evaluate each of the following limits:

1) $\lim\limits_{x\to0} \dfrac{sin3x}{2x} =$

2) $\lim\limits_{x\to0} \dfrac{4-4cos2x}{6x} =$

3) $\lim\limits_{x\to0} \dfrac{sinx(1-cosx)}{2x^2} =$

Problem Set #7: *Evaluate each of the following limits.*

1) $\lim\limits_{x\to0} \dfrac{sin^2x}{x} =$	2) $\lim\limits_{x\to0} \dfrac{5x+sinx}{x} =$

3) $\lim\limits_{x \to 0} \dfrac{1-\cos 3x}{x} =$

4) $\lim\limits_{x \to 0} \dfrac{\tan x}{x} =$

5) $\lim\limits_{x \to 0} \dfrac{1-\cos^2 x}{x^2} =$

6) $\lim\limits_{x \to 0} \dfrac{\sin x}{2x} =$

7) $\lim\limits_{x \to 0} \dfrac{\sin\frac{x}{5}}{x} =$

8) $\lim\limits_{x \to 0} \dfrac{x-x\cos 2x}{x^2} =$

9) $\lim\limits_{x \to 0} \dfrac{\sin 2x}{3x} =$

10) $\lim\limits_{x \to 0} \dfrac{\sin^2 3x}{x^2} =$