Calculus **Name: _____**

HW 10: Unit 2.4 – Trig Limits

Evaluate the following limits algebraically. Confirm with your calculator if it's possible.

1. $\lim_{x\to 0}\frac{2\sin(3x)}{x}=$_____

2. $\lim_{x\to 0^+}\frac{\sin x}{x^2}=$_____

3. $\lim_{x\to 0^+}\frac{\sin x}{5\sqrt{x}}=$_____

4. $\lim_{x\to 0}\frac{\sin^2 x}{3x^2}=$_____

5. $\lim_{x\to 0}\frac{\tan(7x)}{\sin(3x)}=$_____

6. $\lim_{x\to 0}\frac{2x+\sin x}{x}=$_____

7. $\lim_{x\to \frac{\pi}{2}}\frac{\cos^2 x}{1-\sin x}=$_____

8. $\lim_{x\to 0}\frac{x}{\sin x}=$_____

9. $\lim_{x\to 0}\frac{x^2}{1-\cos^2 x}=$_____

10. $\lim_{x\to 0}\frac{3-3\cos x}{x}=$_____