Review due Wednesday

Trig–Precalc Quiz 4.6 Review

ALL SUPPORTING WORK MUST BE SHOWN TO RECEIVE FULL CREDIT

Determine algebraically whether the graph of f(x) is a sinusoid.

1) $f(x) = \sin 14\pi x - \cos 6\pi x$

2) $f(x) = 3 \sin x + 6 \cos x$

Tell whether the function exhibits damped oscillation. If it does, identify the damping factor and tell whether the damping occurs as $x \to \infty$ or as $x \to 0$.

3) $f(x) = -3x^2 \cos 5x$

4) $f(x) = \left(\frac{1}{2}\right)^x \sin 3x$

Describe the end behavior of the function.

5) $f(x) = e^{-x} \cos 3x$

6) $f(x) = 5x^{-1} \cos 4x$

Determine algebraically whether the function is periodic. If periodic, find period and sketch 2 periods.

7) $y = |\sin x|$

8) $f(x) = 2x + \sin 5x$

Find equation of 2 parallel lines that the function oscillates between.

9) $y = \sin(5x) - x$

Graph the function and find the period. Sketch 2 periods. Show sketch and window.

10) $y = 3 \cos 2x - 3 \cos 3x$

Write the function as a single sine function. Round to two decimal places if necessary. Show sketch and window.

11) $f(x) = 5 \cos x + 2 \sin x$

Find the domain and range of the function. Sketch graph.

12) $f(x) = -4 \cos^2 x$