Trigonometry
Chapter 1/2 Test Review

Instructions: All answers should be in exact form, no decimals.

1. Find the center and radius of the following:

$x^2 + y^2 - 10x + 8y + 32 = 0$	$4x^2 + 4y^2 - 4x + 24y + 21 = 0$

2. Convert the following (no decimals):

35° to radians	80° to radians
$\frac{4\pi}{9}$ to degrees	$\frac{2\pi}{5}$ to degrees

3. Find exact values of trig functions based on the unit circle:

Find the exact value of: $\cot\frac{-\pi}{3} - \sec\frac{\pi}{6}$	Find the exact value of: $7\csc\frac{3\pi}{4} - \cot\left(\frac{-2\pi}{3}\right)$
Find the exact value of: $\sin\frac{\pi}{3} - \cos\frac{\pi}{2}$	Find the exact value of: $5\sec\frac{9\pi}{4} - \csc\left(\frac{-2\pi}{3}\right)$

4. Find the exact value of the trigonometric functions given various criteria:

Find the exact value of each of the remaining trigonometric functions: $\csc\theta = -7, \tan\theta < 0$	Find the exact value of each of the remaining trigonometric functions: $\cos\theta = \frac{3}{7}, \sin\theta < 0$
Find the exact value of each of the remaining trigonometric functions: $\sec\theta = 5, \sin\theta > 0$	Find the exact value of each of the remaining trigonometric functions: $\sin\theta = \frac{2}{3}, \tan\theta > 0$

5. Find the amplitude and/or period:

Find the amplitude and period of $y = 4\cos(2x)$	Find the amplitude and period of $y = -2\sin\left(\frac{\pi}{2}x\right)$
Find the period of: $y = 5\csc(\pi x)$	Find the period of: $y = 2\tan(4x)$

6. Find the period and any phase shifts (vertical or horizontal shifts) of:

$y = -8 + 3\tan(4\theta - 9)$	$y = -2 + 4\cot(7\theta + 2)$

7. Graph:

$y = 4\sin(2x)$	$y = 2\cos\left(\frac{\pi}{2}x\right)$

8. Given a point not on the unit circle, find the value of the trigonometric functions:

The point given is on the terminal side of an angle in standard position. Find the exact values of the trigonometric functions: (-2, -11)	The point given is on the terminal side of an angle in standard position. Find the exact values of the trigonometric functions: (-3, 10)

9. Use even/odd properties and/or the periodic nature of trigonometric functions to find the exact value of an expression:

Find the exact value of $\tan 420^\circ$.	Find the exact value of $\csc 1860^\circ$.
Find the exact value of $\cos^2 60^\circ + \sin^2 (420^\circ)$	Find the exact value of $\tan 30^\circ \cdot \cot(-150^\circ)$