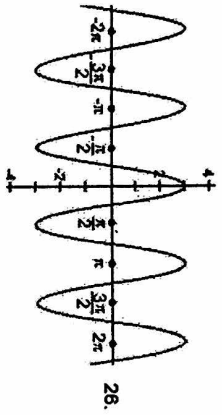
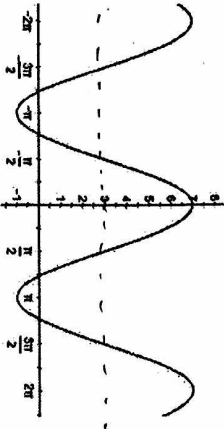


NC Math 3 Honors - Unit 7 Trigonometry Review

For each graph, determine the amplitude, period, and vertical shift. Then write the equation.



1. Amplitude: 3 Period:  $\pi$   
 Vertical Shift: 0  
 Equation:  $y = 3\cos 2x$



2. Amplitude: 4 Period:  $2\pi$   
 Vertical Shift: 3  
 Equation:  $y = 4\cos x + 3$

3.  $y = -2\cos 13x - 7$

Amplitude: 2 Period:  $\frac{2\pi}{13}$   
 Vertical Shift: -7

4.  $y = 4\sin(4x) + 2$

Amplitude: 4 Period:  $\frac{\pi}{2}$   
 Vertical Shift: 2

Identify the center and radius for each circle:

5.  $(x+1)^2 + (y-6)^2 = 3$   
 C:  $(-1, 6)$   
 r:  $\sqrt{3}$

6.  $(x-5)^2 + (y+6)^2 = 16$   
 C:  $(5, -6)$   
 r: 4

7.  $x^2 + 24x + y^2 + 10y + 160 = 0$   
 C:  $(-12, -5)$   
 r: 3

8.  $x^2 - 6x + y^2 - 32y = -264$   
 C:  $(3, 16)$   
 r: 1

Write the equation of a circle with the given information:

9. Center  $(-5, -8)$  and radius 2  
 $(x+5)^2 + (y+8)^2 = 4$

10. Center  $(-13, -16)$  through  $(-10, -1)$   
 $(x+13)^2 + (y+16)^2 = 234$

Convert each angle from radians to degrees:

11.  $\frac{\pi}{4}$  radians  $45^\circ$

12.  $-\frac{13\pi}{3}$  radians  $-780^\circ$

13.  $\frac{47\pi}{6}$  radians  $1410^\circ$

Convert each angle from degrees to radians:

14.  $420^\circ$   $\frac{7\pi}{3}$

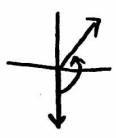
15.  $-20^\circ$   $-\frac{\pi}{9}$

16.  $225^\circ$   $\frac{5\pi}{4}$

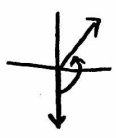
For each of the following:

- A. Sketch the angle in standard position.  
 B. Determine one positive and one negative coterminal angle.

17.  $-150^\circ$   
 $210^\circ$   
 $-510^\circ$



20.  $\frac{3\pi}{4}$  radians  
 $\frac{11\pi}{4}$ ,  $-\frac{5\pi}{4}$



18.  $45^\circ$   
 $405^\circ$   
 $-315^\circ$



21.  $-\frac{10\pi}{3}$  radians  
 $\frac{2\pi}{3}$ ,  $-\frac{4\pi}{3}$



19.  $510^\circ$   
 $870^\circ$   
 $-210^\circ$



22.  $\frac{17\pi}{6}$  radians  
 $\frac{5\pi}{6}$ ,  $-\frac{7\pi}{6}$



Use the given information to determine each of the six trigonometric ratios:

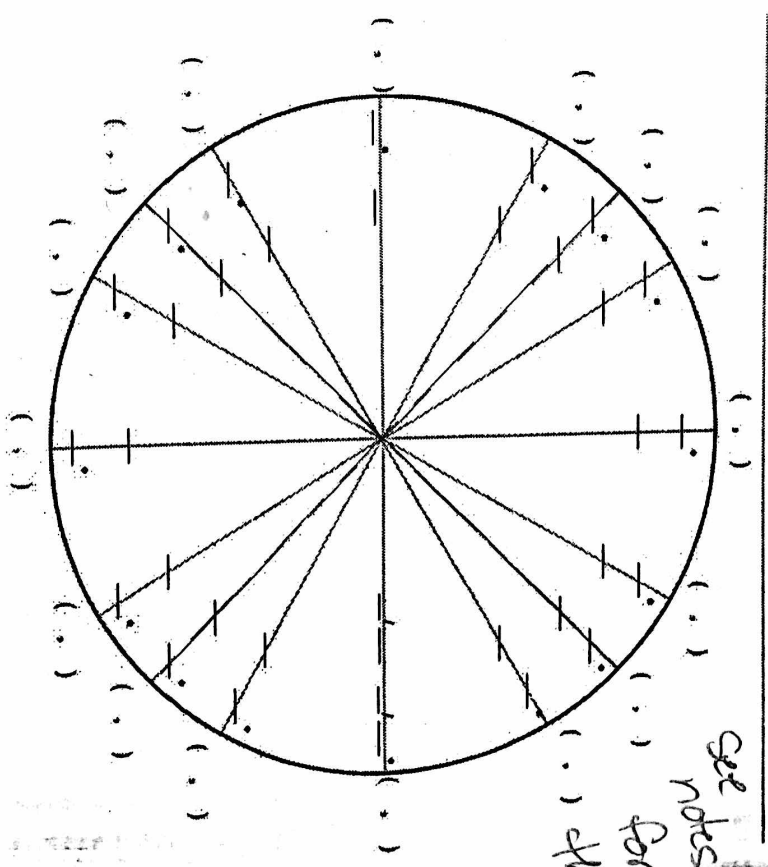
23.  $\tan \theta = \frac{8}{15}$

$\sin \theta = \frac{8}{17}$      $\csc \theta = \frac{17}{8}$   
 $\cos \theta = \frac{15}{17}$      $\sec \theta = \frac{17}{15}$   
 $\tan \theta = \frac{8}{15}$      $\cot \theta = \frac{15}{8}$

24.  $\csc \theta = \frac{12}{5}$

$\sin \theta = \frac{5}{12}$      $\csc \theta = \frac{12}{5}$   
 $\cos \theta = \frac{\sqrt{119}}{12}$      $\sec \theta = \frac{12\sqrt{119}}{119}$   
 $\tan \theta = \frac{5\sqrt{119}}{119}$      $\cot \theta = \frac{\sqrt{119}}{5}$

Fill in the blank unit circle below. Make sure to include angles in both degrees and radians.



get notes for this

Use the unit circle to determine the value of each trigonometric ratio below:

25.  $\sin\left(\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$     28.  $\csc\left(\frac{4\pi}{3}\right) = -\frac{2\sqrt{3}}{3}$     31.  $\cot(270^\circ) = 0$   
 26.  $\tan\left(-\frac{3\pi}{2}\right)$  undefined    29.  $\sec\left(\frac{11\pi}{6}\right) = \frac{2\sqrt{3}}{3}$     32.  $-\cos(150^\circ) = \frac{\sqrt{3}}{2}$   
 27.  $\cos\left(\frac{\pi}{6}\right) = \frac{\sqrt{3}}{2}$     30.  $\sin(-60^\circ) = -\frac{\sqrt{3}}{2}$     33.  $\sec(315^\circ) = \sqrt{2}$