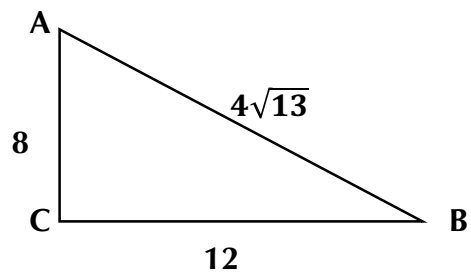


## Unit 6 Review – Unit Circle

1. Write a ratio for all six trig functions. Write in exact, fully simplified form.  $\angle C = 90^\circ$ .



a.  $\sin A =$

d.  $\csc B =$

b.  $\cos A =$

e.  $\sec B =$

c.  $\cot A =$

f.  $\tan B =$

Using a Unit Circle, find the exact value of the following.

2.  $\tan 510^\circ =$

3.  $\sec -330^\circ =$

4.  $\sin 405^\circ =$

5.  $\cos -360^\circ =$

6.  $\cot 660^\circ =$

7.  $\csc 315^\circ =$

8.  $\cos \frac{-7\pi}{4} =$

9.  $\cot \frac{11\pi}{6} =$

10.  $\csc \frac{4\pi}{3} =$

11.  $\tan \frac{5\pi}{6} =$

12.  $\sin \frac{-3\pi}{4} =$

13.  $\sec 540^\circ =$

14.  $\tan \frac{7\pi}{6} =$

15.  $\sec \frac{-\pi}{2} =$

Evaluate the given expression, leaving the answer in simple radical form.

16.  $\cos 120^\circ + \sin 150^\circ =$

17.  $\cos 30^\circ \sin 240^\circ =$

18.  $\csc 300^\circ \sec 30^\circ =$

19.  $\tan^2 45^\circ + \sin 30^\circ =$

20.  $12 \sin 120^\circ \cos 210^\circ =$

21.  $\cos^2 45^\circ + \sin^2 315^\circ + \cos^2 150^\circ + \sin^2 150^\circ =$

22.  $\tan 120^\circ \cot 120^\circ + \tan 150^\circ \cot 150^\circ =$

23.  $4 \sin 270^\circ \sin 315^\circ \cos 315^\circ =$

Determine all values of  $\theta$  from  $0^\circ$  through  $360^\circ$  for which:

24.  $\sin \theta = 0$

25.  $\csc \theta = -1$

26.  $\tan \theta = \frac{\sqrt{3}}{3}$

27.  $\sec \theta = \text{undefined}$

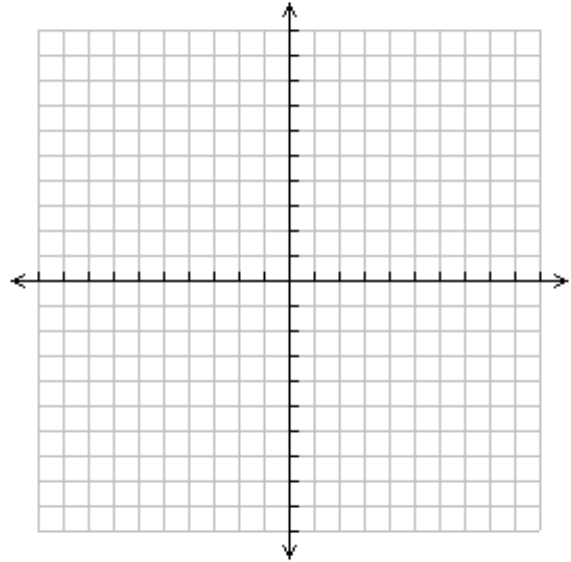
Graph the circle given by the following equation.

[ minimum of 8 obvious points on graph ]

28.  $(x + 3)^2 + (y - 1)^2 = 9$

Center:

Radius:



Identify the center and radius for each.

29.  $x^2 + (y + 4)^2 = 20$

Center:

Radius:

30.  $(x - 7)^2 + (y - 12)^2 = 121$

Center:

Radius:

Write an equation given the center and radius.

31. Center:  $(-2, 0)$

Radius:  $5\sqrt{3}$

32. Center:  $(5, -8)$

Radius: 7

33. Center:  $(1, \sqrt{3})$

Radius:  $\frac{2}{5}$

34. Center:  $(\frac{1}{4}, 3)$

Radius: 4.7