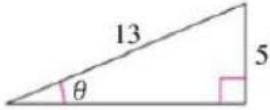


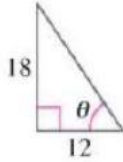
STATION 1

Find the exact values of the six trigonometric functions of the angle θ shown in the figure.

1.



2.



STATION 2

Sketch a right triangle corresponding to the trigonometric function of the acute angle θ . Then find the other five trigonometric functions of θ .

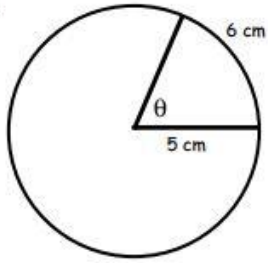
3. $\cot \theta = 5$

4. $\cos \theta = \frac{3}{7}$

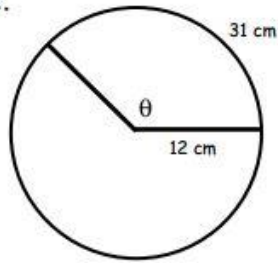
STATION 3

Find the angle in radians.

1.



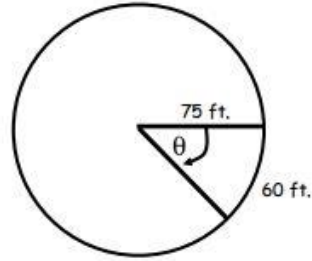
2.



3.

radius is 7 meters
arc length is 32 meters

4.



STATION 4

Find the length of the arc.

5.

radius is 14 inches
central angle θ is 180°

6.

radius is 12 centimeters
central angle θ is $\frac{3\pi}{4}$

Find the radius.

7.

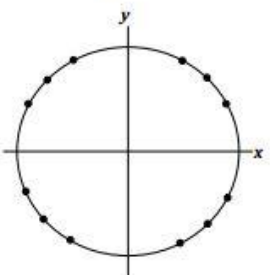
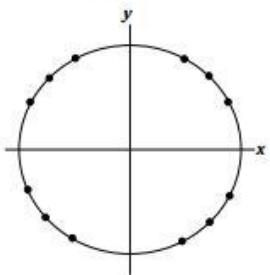
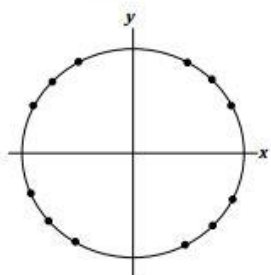
arc length is 36 feet
central angle θ is $\frac{\pi}{2}$

8.

arc length is 82 miles
central angle θ is 135°

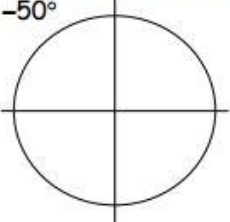
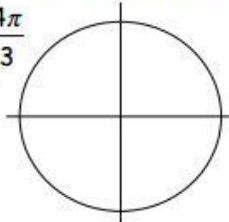
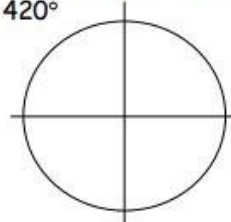
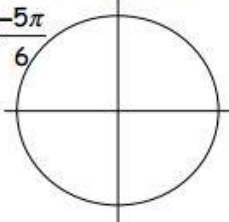
STATION 5

Use the blank unit circle to mark the angle and then label the point. Then evaluate (if possible) the sine, cosine, and tangent of the real number t .

<p>7. $t = \frac{7\pi}{6}$</p> 	<p>8. $t = \frac{2\pi}{3}$</p> 	<p>9. $t = -\frac{5\pi}{3}$</p> 
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STATION 6

Draw each angle in standard position (initial & terminal sides). Determine the reference angle (if it's not quadrantal). Find one positive and one negative angle that is coterminal to each angle (answers may vary).

<p>1. -50°</p>  <p>Ref. $\angle =$ _____ Coterminal \angles: _____</p>	<p>2. $\frac{4\pi}{3}$</p>  <p>Ref. $\angle =$ _____ Coterminal \angles: _____</p>	<p>3. 420°</p>  <p>Ref. $\angle =$ _____ Coterminal \angles: _____</p>	<p>4. $-\frac{5\pi}{6}$</p>  <p>Ref. $\angle =$ _____ Coterminal \angles: _____</p>
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STATION 7

CALCULATOR

Rewrite each angle in radian measure in the following ways:

a) in terms of π

b) the rounded decimal equivalent (round three decimal places)

34. 145°	35. -80°	36. -350°	37. 58°
a)	a)	a)	a)
b)	b)	b)	b)

Rewrite each angle in degree measure. Round three decimal places when needed.

38. $\frac{6\pi}{5}$	39. $-\frac{4\pi}{3}$	40. 5π	41. 5
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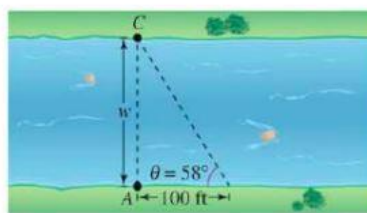
STATION 8

Answer the following. Provide an exact value (in terms of π) and decimal value (rounded to three places).

50. An arc of a circle has a central angle measure of 330° and a length of 15 feet. Find the length of a radius of the circle.	51. Find the length of an arc of a circle with a radius of 25 cm and a central angle measure of $\frac{3\pi}{7}$.	52. Find the measure of a central angle of an arc if its length is 10 meters and the radius is 2 meters.
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STATION 9

21. A biologist wants to know the width w of a river (see figure) in order to properly set instruments for studying the pollutants in the water. From point A , the biologist walks downstream 100 feet and sights to point C . From the sighting, it is determined that $\theta = 58^\circ$. How wide is the river? Round your answer to three decimal places.



STATION 10

24. Find the 6 trigonometric function values for the point $(7, -24)$ on the terminal side of angle θ .

$$\sin \theta = \quad \csc \theta =$$

$$\cos \theta = \quad \sec \theta =$$

$$\tan \theta = \quad \cot \theta =$$

25. Given that $\cos \theta = -\frac{12}{13}$ and $\sin \theta > 0$, find the exact values of the other five trig. functions.

$$\sin \theta = \quad \csc \theta =$$

$$\cos \theta = -\frac{12}{13} \quad \sec \theta =$$

$$\tan \theta = \quad \cot \theta =$$