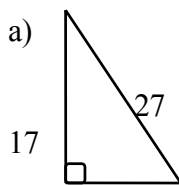


Angles and Right Triangles

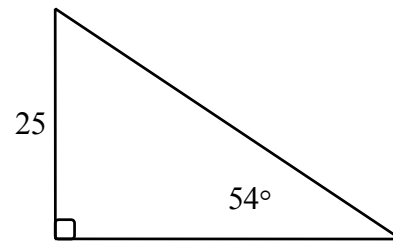
1. Determine the value of the six trig functions given the point on the coordinate plane is $(-3, -9)$

2. Determine the five remaining trig functions given that $\cos x = -7/12$

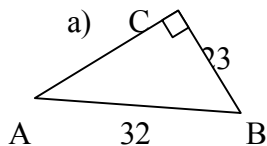
3. Determine the missing components of the right triangle: (label the triangle in a manner that best suits your needs).



b)



2. Determine the indicated trig functions from the given triangle.



- 1) $\sin \angle A$
- 2) $\cot \angle B$
- 3) $\sec \angle A$

3. Determine the missing components of a right triangle given the following information:
 $\angle C = 90^\circ$, $a = 2$ and $\angle B = 18^\circ$.

4. If one end of a loading ramp is 1.5 meters from the ground and the other end makes an angle of 9° with the ground, find the length of the ramp.

Special Angles:

1. Simplify without using a calculator:

a) $\sin 30^\circ + \tan 60^\circ$

b) $2 \cos 45^\circ + \sec 60^\circ$

c) $\sec 120^\circ + \tan 240^\circ - (\csc 315^\circ)^2$

d) $(\sin 45^\circ + \cos 30^\circ)(\cos 45^\circ - \sin 120^\circ)$

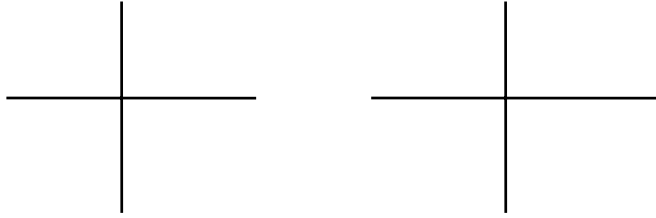
d) $\sec \frac{\pi}{6} + \tan \frac{2\pi}{3}$

e) $\tan \frac{11\pi}{6} * \sin \frac{5\pi}{4} * \csc \frac{5\pi}{3}$

f) $\sec \frac{\pi}{3} \left(\cot \frac{7\pi}{6} + \sin \frac{2\pi}{3} \right)$

g) $\sin \frac{15\pi}{3} + \sec \frac{11\pi}{4} - \csc \frac{13\pi}{3}$

1. Draw an angle in standard position having:
 a) a degree measure of 203° b) a degree measure of -310°



2. Give two positive and two negative coterminal angles for:

a) 215° _____, _____, _____, _____

b) -313° _____, _____, _____, _____

3. Give the reference angle for each of the following:

a) 160° _____ b) -156° _____ c) 203° _____ d) -805° _____

4. Convert the following angle into "pi" and radian measures

156° _____, _____

5. Convert the following pi measures into degree and radian measure

$\frac{7}{9}\pi$ _____, _____

6. Convert the following radian measure into degree and pi measure

5.43 _____, _____

7. Determine the missing information:

a) the distance the point $(4, -2)$ is from the origin

b) the x coordinate of the point that is 10 units from the origin that has a y coordinate of -4 and exists in the fourth quadrant.

8. Determine the following values:

a) $\sin 127^\circ$ _____, b) $\tan 212^\circ$ _____ c) $\csc 209^\circ$ _____

9. Convert 69.497 degrees into degrees, minutes and seconds

10. Convert 12 degrees 19 minutes 56 seconds into degrees.

11. If the central angle is 40 degrees and the radius is 8 cm find the arc length.

12. If the arc length of a partial rotation of a wheel is 156 cm and the radius of the wheel is 12 cm, find the measure of the central angle in degrees.

13. How far will a point on a wheel travel if the radius of the wheel is 20 cm and the central angle has a measure of 3368 degrees.