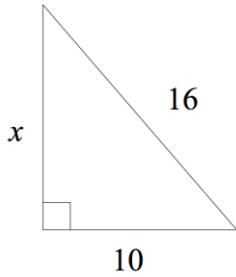


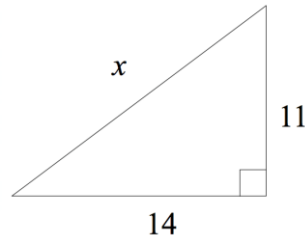
SM2H – Unit 8 Trigonometry Test Review

Find the missing side of each triangle. Leave your answers in simplest radical form.

1.

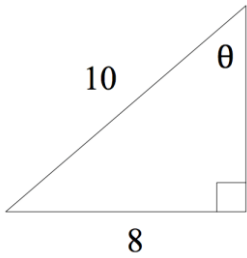


2.



Find the sine, cosine, tangent, cosecant, secant, and cotangent ratios for the angle indicated. Express your answers as simplified fractions.

3.



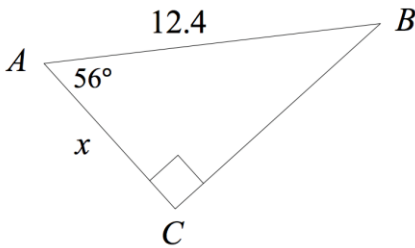
$\sin \theta =$                        $\csc \theta =$

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

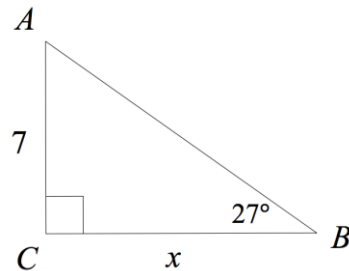
$\tan \theta =$                        $\cot \theta =$

Find the measure of each side indicated. Round to the nearest tenth. You must write an equation for full credit.

4.



5.



Find the value of each trigonometric ratio to the nearest ten-thousandth.

6.  $\sin 42^\circ =$

7.  $\sec 83^\circ =$

8.  $\tan 29^\circ =$

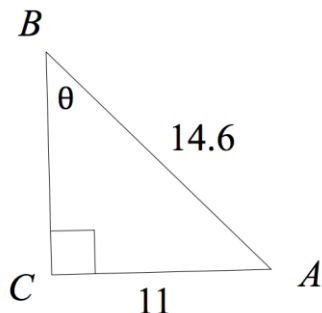
Find the value of the trigonometric function indicated, given the following information.

9. Find  $\tan q$  if  $\sin q = \frac{3}{8}$ .

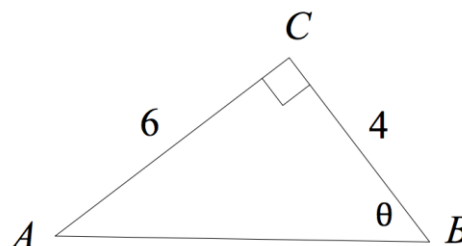
10. Find  $\csc q$  if  $\cos q = \frac{2\sqrt{7}}{8}$ .  $48^\circ$

Find the measure of each angle indicated. Round to the nearest tenth.

11.

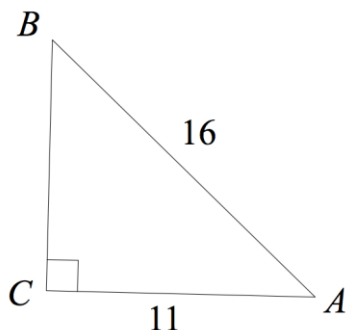


12.



Solve each triangle. Round to the nearest tenth. If there is no picture provided, draw a picture first.

13.



14.  $m\angle B = 42^\circ$   
 $a = 20$

$m\angle A =$

$a =$

$m\angle A =$

$a =$

$m\angle B =$

$b =$

$m\angle B =$

$b =$

$m\angle C =$

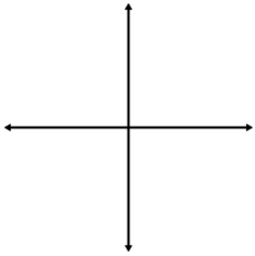
$c =$

$m\angle C =$

$c =$

**Draw the angle in standard position. Identify the reference angle and its measurement.**

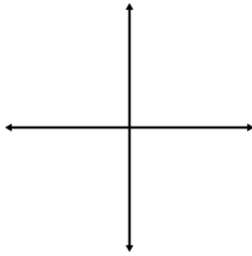
15.  $72^\circ$



angle measure \_\_\_\_\_

reference angle \_\_\_\_\_

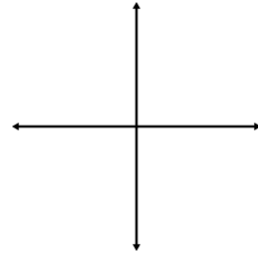
16.  $225^\circ$



angle measure \_\_\_\_\_

reference angle \_\_\_\_\_

17.  $310^\circ$

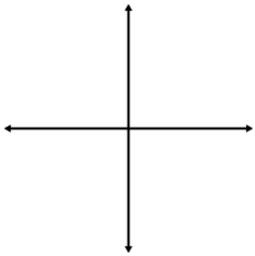


angle measure \_\_\_\_\_

reference angle \_\_\_\_\_

**Find the sine, cosine, and tangent of the angle made by the following points. Keep answers in simplified radical form. (NO DECIMALS)**

18. (1, 5)

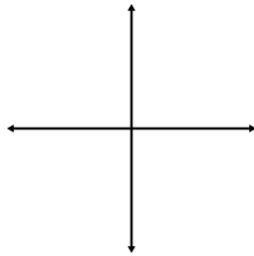


$\sin q =$

$\cos q =$

$\tan q =$

19. (4, -3)

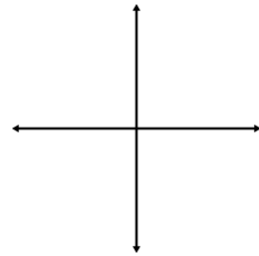


$\sin q =$

$\cos q =$

$\tan q =$

20. (-8, -15)



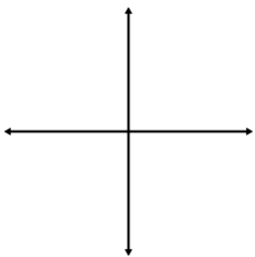
$\sin q =$

$\cos q =$

$\tan q =$

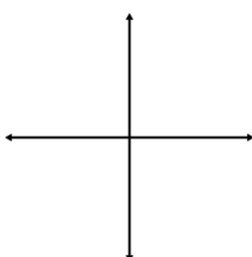
**Find the measurement of the STANDARD ANGLE (you will need to first find the reference angle!) that is created by the coordinate point. Draw a picture. Round to the hundredth.**

21. (1, 5)



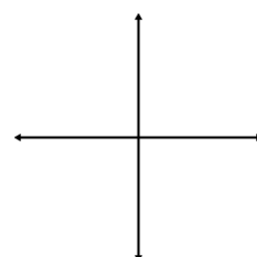
$q =$

22. (4, -3)



$q =$

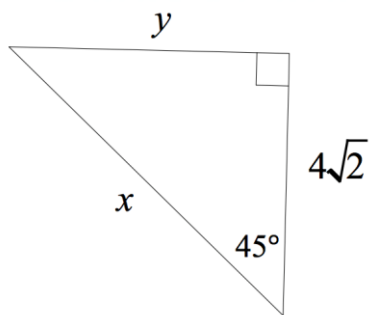
23. (-8, -15)



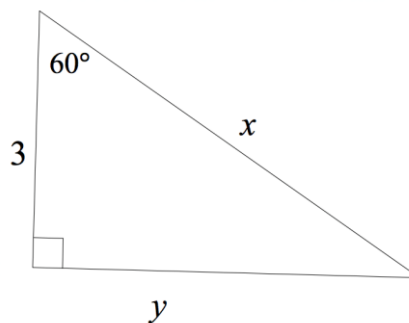
$q =$

Use special right triangles to solve for  $x$  and  $y$ . Leave your answers as radicals in simplest form. NO DECIMAL ANSWERS ALLOWED!

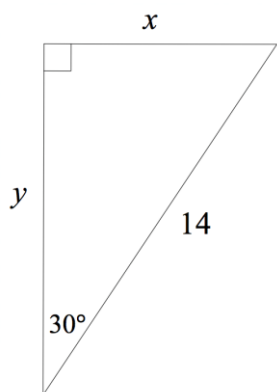
24.



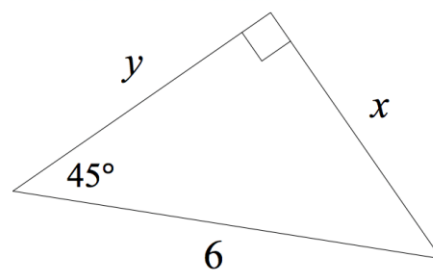
25.



26.

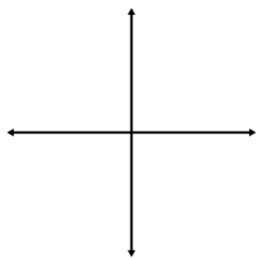


27.



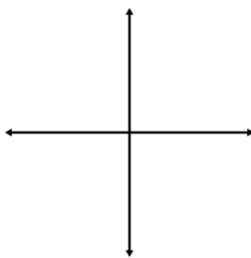
Find the measurement of the STANDARD ANGLE (you will need to first find the reference angle!) that is created by the coordinate point. Draw a picture. Use special right triangles to solve for the angle. NO DECIMAL ANSWERS ALLOWED!

28.  $(2, -2)$



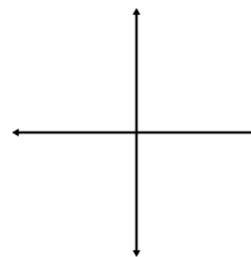
$q =$

29.  $(-1, \sqrt{3})$



$q =$

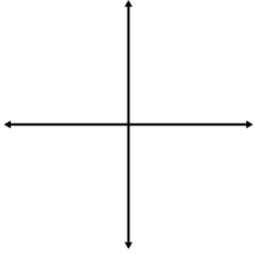
30.  $(-5, -5)$



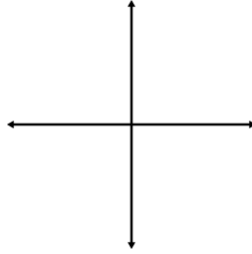
$q =$

For each bearing, draw a picture and label the angle (angle to N or S).

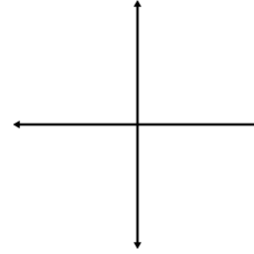
31.  $S 80^\circ W$



32.  $N 20^\circ E$



33.  $S 62^\circ E$



**Draw a diagram to help you solve each problem, then write the equation. Round your answer to the nearest tenth.**

34. A square has a diagonal of length 10 cm. Find the length of each side.

35. A 20-ft. tall ladder is leaning against a building. It makes a  $65^\circ$  angle with the ground. How far up the building does it reach?

36. A photographer wishes to take a picture of a bird in a tree. She is 15 feet from the base of the tree and is shooting the picture at a  $50^\circ$  angle of elevation. How far is the camera from the bird?

37. A ladder, 500cm long, leans against a building. If the angle between the ground and the ladder is 57 degrees, how far from the wall is the bottom of the ladder?

38. A kite has 25 feet of string. The wind is blowing the kite to the west so that the angle of elevation is  $40^\circ$ . How far has the kite traveled horizontally?

39. A sledding run is 400 yards long with a vertical drop of 40.2 yds. Find the angle of depression of the run.

40. A ship travels on a course with a bearing of  $N 50^\circ E$ . The ship travels until it is due north of a port which is 10 nautical miles due east of the port from which the ship originated. How far did the ship travel?