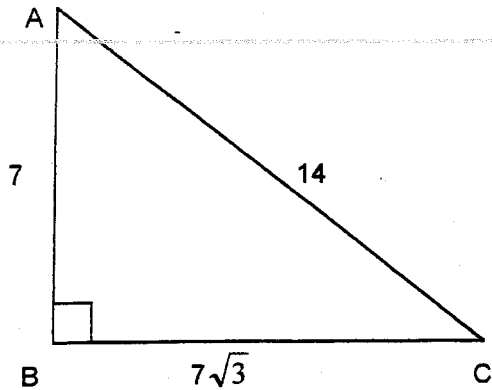


## WORKSHEET – TRIGONOMETRIC RATIOS

### “SOHCAHTOA”

FIND THE FOLLOWING RATIOS:



1.  $\sin A =$  \_\_\_\_\_

2.  $\cos A =$  \_\_\_\_\_  $m\angle A =$  \_\_\_\_\_

3.  $\tan A =$  \_\_\_\_\_

4.  $\sin C =$  \_\_\_\_\_

5.  $\cos C =$  \_\_\_\_\_  $m\angle C =$  \_\_\_\_\_

6.  $\tan C =$  \_\_\_\_\_

FIND THE VALUE OF EACH EXPRESSION. ROUND ANSWERS TO NEAREST TENTH IF NECESSARY.

7.  $\sin 30^\circ =$  \_\_\_\_\_

8.  $\tan 45^\circ =$  \_\_\_\_\_

9.  $\cos 60^\circ =$  \_\_\_\_\_

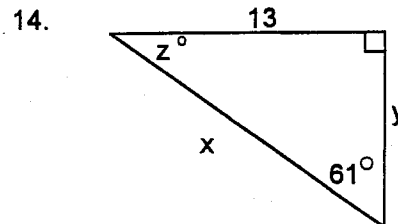
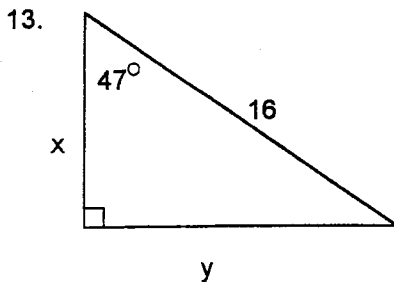
FIND THE MEASURE OF THE ACUTE ANGLE THAT SATISFIES THE GIVEN EQUATION.

10.  $\cos x^\circ = \frac{\sqrt{3}}{2}$

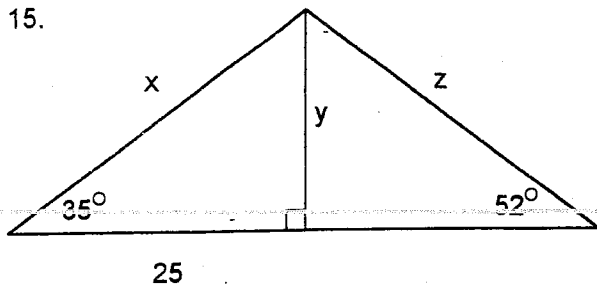
11.  $\sin x^\circ = \frac{1}{2}$

12.  $\tan x^\circ = 1$

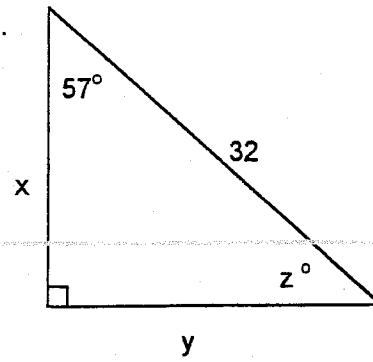
USE TRIGONOMETRIC RATIOS TO FIND THE MISSING VARIABLES. ROUND TO NEAREST TENTH.



15.

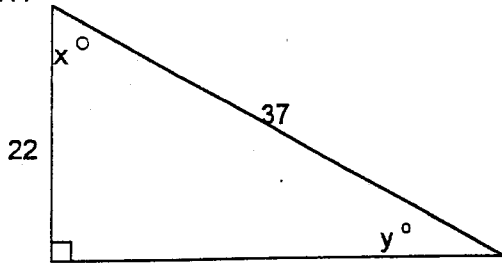


16.

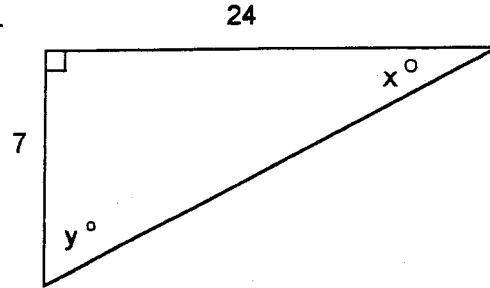


USE TRIGONOMETRIC RATIOS TO FIND THE MISSING ANGLE MEASURES. ROUND TO THE NEAREST DEGREE MEASURE.

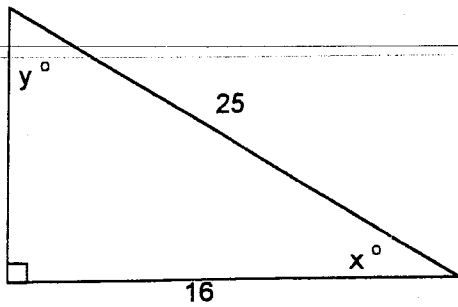
17.



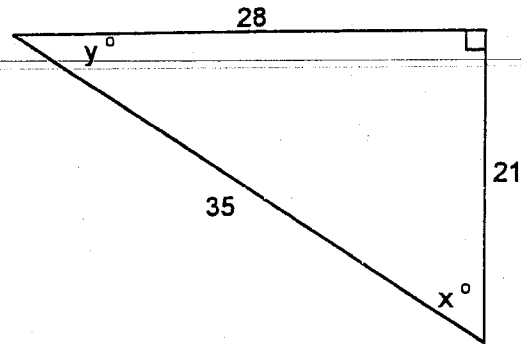
18.



19.



20.



SOLVE EACH PROBLEM USING TRIGONOMETRIC RATIOS. ROUND LENGTHS TO THE NEAREST TENTH AND ROUND MEASURES TO THE NEAREST DEGREE. **DRAW A PICTURE TO REPRESENT EACH PROBLEM.**

21. A kite is flying 115 ft above the ground. The length of the string to the kite is 150 ft, measured from the ground. Find the angle to the nearest degree that the string makes with the ground.

22. To the nearest degree what is the angle formed with the ground by a 32 ft ladder if it is leaning against a wall at a height of 28 ft?

23. Suppose the angle of elevation from a ship to the top of a lighthouse on top of a cliff is  $6^\circ$ . The lighthouse is 60 ft tall and the cliff is 250 ft high. Find the distance from the ship to the base of the cliff.

24. The angle of depression from a hot air balloon to its landing target is  $12^\circ$ . If the balloon is 175 ft high, find its distance measured along the ground from the target.

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25. The angle of depression from an airplane flying at an altitude of 5000 ft to the closer end of the runway is  $9^\circ$ . Find the horizontal distance from the airplane to the runway.

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