

## BASIC TRIGONOMETRIC FUNCTIONS



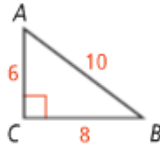
### Lesson Check

#### Do you know HOW?

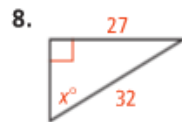
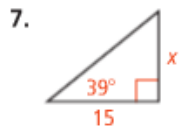
Write each ratio.

1.  $\sin A$
3.  $\tan A$
5.  $\cos B$

2.  $\cos A$
4.  $\sin B$
6.  $\tan B$



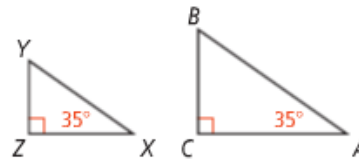
What is the value of  $x$ ? Round to the nearest tenth.



#### Do you UNDERSTAND?

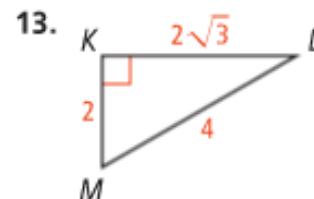
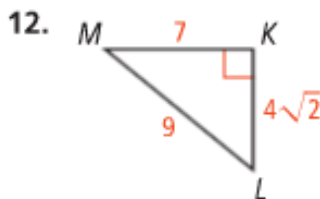
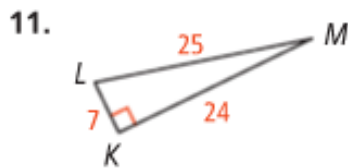
9. **Vocabulary** Some people use SOH-CAH-TOA to remember the trigonometric ratios for sine, cosine, and tangent. Why do you think that word might help? (Hint: Think of the first letters of the ratios.)

10. **Error Analysis** A student states that  $\sin A > \sin X$  because the lengths of the sides of  $\triangle ABC$  are greater than the lengths of the sides of  $\triangle XYZ$ . What is the student's error? Explain.

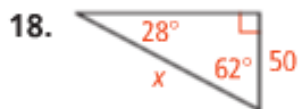


### **A** Practice

Write the ratios for  $\sin M$ ,  $\cos M$ , and  $\tan M$ .

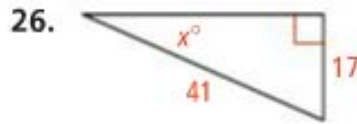
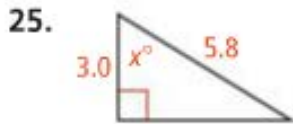
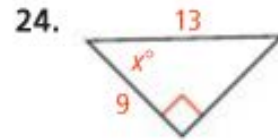
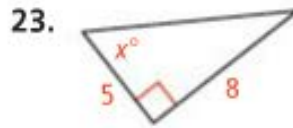
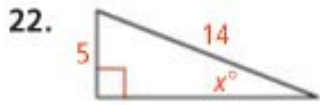


Find the value of  $x$ . Round to the nearest tenth.



### BASIC TRIGONOMETRIC FUNCTIONS

Find the value of  $x$ . Round to the nearest degree.

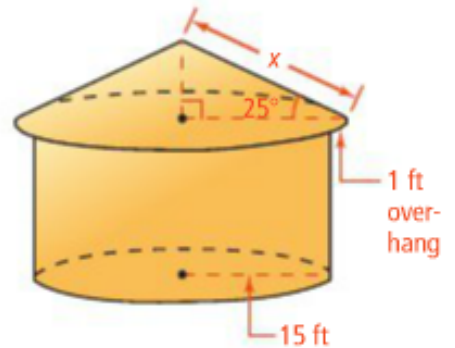


### **B** Apply

28. The lengths of the diagonals of a rhombus are 2 in. and 5 in. Find the measures of the angles of the rhombus to the nearest degree.

29. **Think About a Plan** Carlos plans to build a grain bin with a radius of 15 ft. The recommended slant of the roof is  $25^\circ$ . He wants the roof to overhang the edge of the bin by 1 ft. What should the length  $x$  be? Give your answer in feet and inches.

- What is the position of the side of length  $x$  in relation to the given angle?
- What information do you need to find a side length of a right triangle?
- Which trigonometric ratio could you use?



Find the values of  $w$  and then  $x$ . Round lengths to the nearest tenth and angle measures to the nearest degree.

