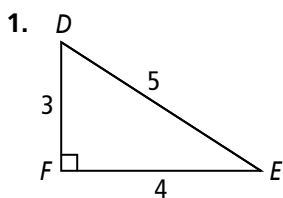


# Practice

Form K

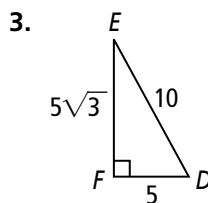
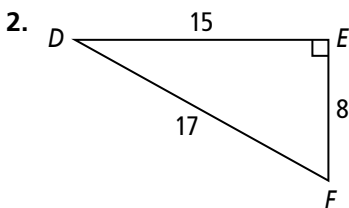
## Trigonometry

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

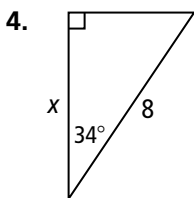


To start, write the ratio of  $\sin D$ . Then determine the length of the side  $\underline{\quad}$   $\angle D$  and the length of the hypotenuse.

$$\sin D = \frac{\boxed{\phantom{000}}}{\text{hypotenuse}} = \frac{\boxed{\phantom{00}}}{5}$$



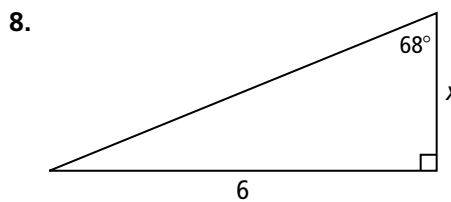
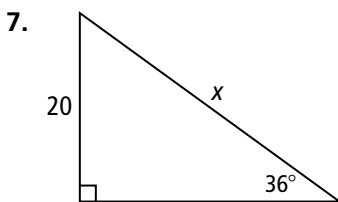
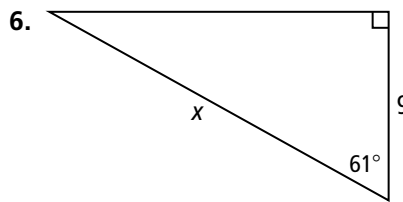
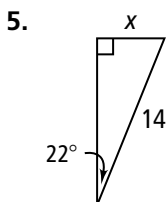
Find the value of  $x$ . Round to the nearest tenth.



To start, identify how the sides relate to the given angle.

Side  $x$  is  $\underline{\quad}$  to the given angle.

The given side is the hypotenuse.



9. The ramp on the back of a moving van is 3 ft high and rises at an angle of  $25^\circ$ . How long is the ramp? Round to the nearest foot.

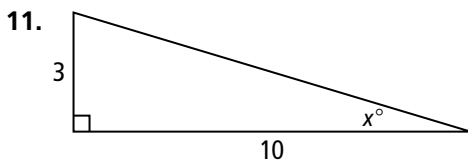
10. A rope attached to the top of a tent is staked into the ground. The rope is 4.5 ft long. The angle formed by the rope and the ground is  $46^\circ$ . How far from the center of the base of the tent is the rope staked? Round to the nearest tenth of a foot.

**Practice** (continued)

Form K

Trigonometry

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



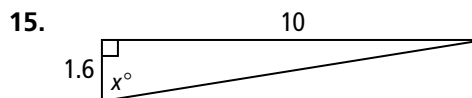
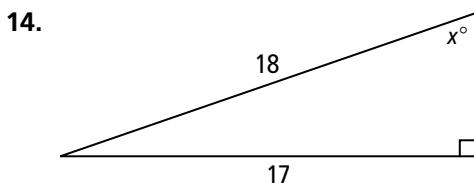
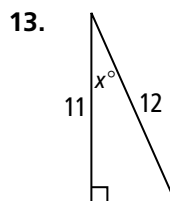
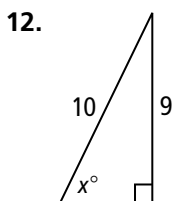
To start, identify the given sides in relation to  $x$ .

Then write the trigonometric ratio.

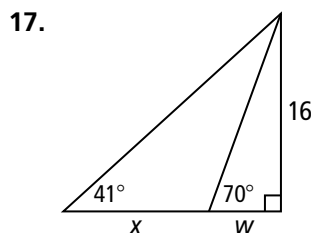
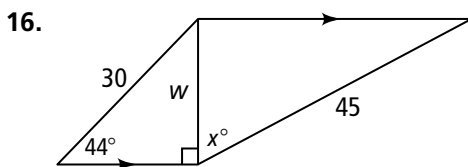
The given sides are the side opposite

$\angle x = \square$  and the side adjacent to  $\angle x = \square$ .

$$\tan x^\circ = \frac{\square}{\square}$$



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



18. Jed is building a roof for his shed. The highest point of the roof will be 3 ft higher than the top of the shed. The slanted roof will be 7 ft long. What is the measure of the angle formed by the top of the shed and the slanted roof?

The sine, cosine, and tangent ratios each have a reciprocal ratio. The reciprocal ratios are cosecant (csc), secant (sec), and cotangent (cot).

Use  $\triangle DEF$  and the definitions below to write each ratio.

$$\csc X = \frac{1}{\sin X}$$

$$\sec X = \frac{1}{\cos X}$$

$$\cot X = \frac{1}{\tan X}$$

19.  $\csc D$

20.  $\sec D$

21.  $\cot D$

