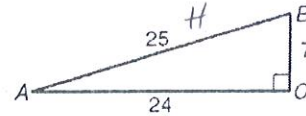


Use the figure for Exercises 1–6. Write each trigonometric ratio as a simplified fraction.



1. $\sin A = \frac{7}{25}$

2. $\cos B = \frac{7}{25}$

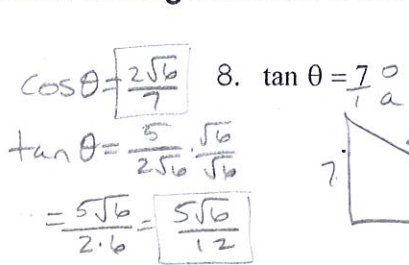
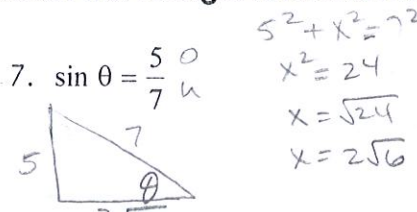
3. $\tan B = \frac{24}{7}$

4. $\sin B = \frac{24}{25}$

5. $\cos A = \frac{24}{25}$

6. $\tan A = \frac{7}{24}$

Sketch the triangle and find the other two trig functions of the acute angle.



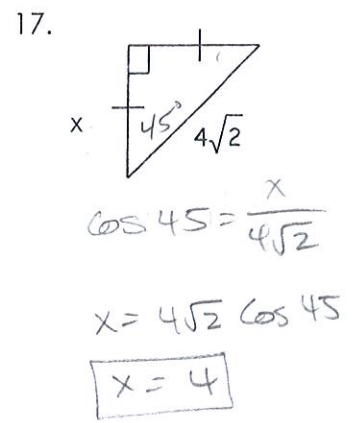
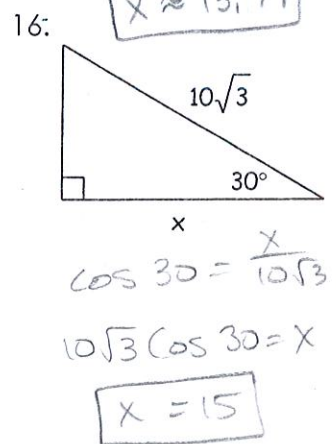
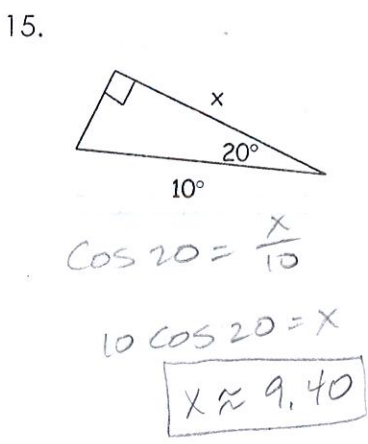
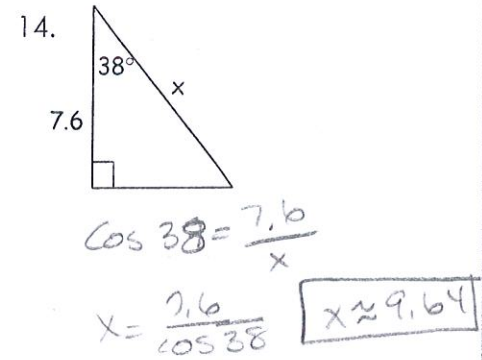
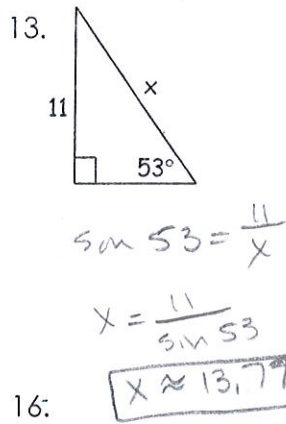
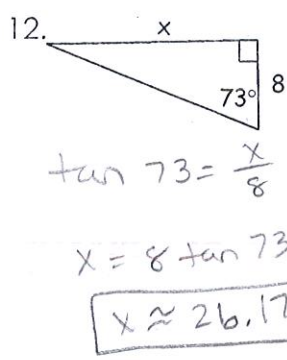
Complete each statement.

9. The sin of 40° is equal to the cos of 50° .

10. The sin of 25° divided by the cos of 25° is equal to the tan of 25° . $\tan 25^\circ = \frac{\sin 25^\circ}{\cos 25^\circ}$.

11. The cos of 10° is equal to the sin of 10° divided by the tan of 10° . $\cos 10^\circ = \frac{\sin 10^\circ}{\tan 10^\circ}$.

Find the measure of each side indicated. Round the answers to the nearest hundredth.



Key

Who Turns Out the Lights on Halloween?



Cross out the letters above each correct answer. When you finish, write the remaining letters in the spaces at the bottom of the page.



In Exercises 1-4, solve the equation. Round your solution to two decimal places.

- ① $\sin 22^\circ = \frac{x}{15}$ ② $\tan 75^\circ = \frac{n}{80}$ ③ $\sin 48^\circ = \frac{7}{a}$ ④ $\cos 6^\circ = \frac{92}{k}$
 $x = 15 \sin 22$ $n = 80 \tan 75$ $a = \frac{7}{\sin 48}$ $k = \frac{92}{\cos 6}$

In Exercises 5-12, find the length of the side labeled x . Round to one decimal place.

- ⑤ $\sin 35 = \frac{x}{10}$
 ⑥ $\cos 54 = \frac{x}{35}$
 ⑦ $\tan 20 = \frac{x}{47}$
 ⑧ $\sin 16 = \frac{x}{18}$
 ⑨ $\tan 65 = \frac{x}{7.5}$
 ⑩ $\cos 51 = \frac{x}{60}$
 ⑪ $\sin 36 = \frac{25}{x}$
 ⑫ $\tan 60 = \frac{90}{x}$

In Exercises 13-15, find the required length. Round to one decimal place.

- ⑬ When a 20-ft ladder is leaned against a wall, it makes a 72° angle with the ground. How high up on the wall does the ladder reach?
 $\sin 72 = \frac{x}{20}$
 ⑭ A ship is sailing toward a small island 700 mi away. If the ship is 2° off course, by how many miles will it miss the island?
 $\tan 2 = \frac{x}{700}$
 ⑮ A cable from the top of a 100-ft telephone tower makes a 50° angle with the ground. How long is the cable?
 $\sin 50 = \frac{100}{x}$



SO	TH	AC	AT	EB	EL	ME	AB	IG	ET	OO
42.5 m	22.5 ft	20.6 m	5.0 cm	130.5 ft	128.1 ft	92.51	19.0 ft	4.7 cm	16.1 mi	298.57
HT	OP	SW	AY	IN	QU	IT	UP	MU	CH	ON
55.4 in.	9.42	20.3 ml	24.4 mi	5.62	37.8 ft	38.1 m	17.1 ft	52.0 in.	95.32	5.7 in.

THE LIGHT SWITCH