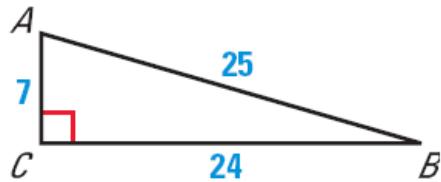


**Geometry**  
**Assignment 7.4**

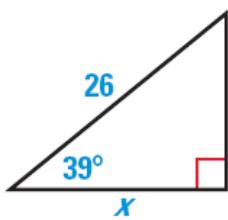
Name: \_\_\_\_\_

1. Find the sine, cosine, and tangent of angle A and angle B.

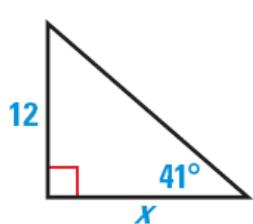


Find the value of the variable.

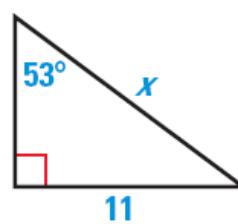
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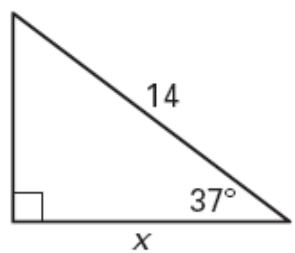
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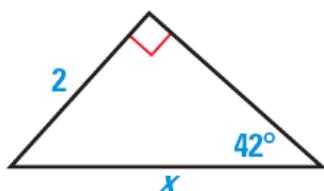
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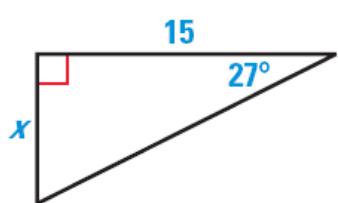
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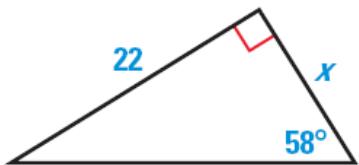
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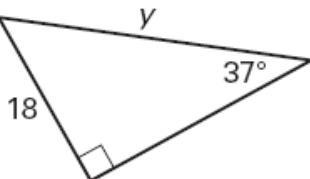
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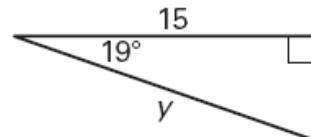
8.



9.

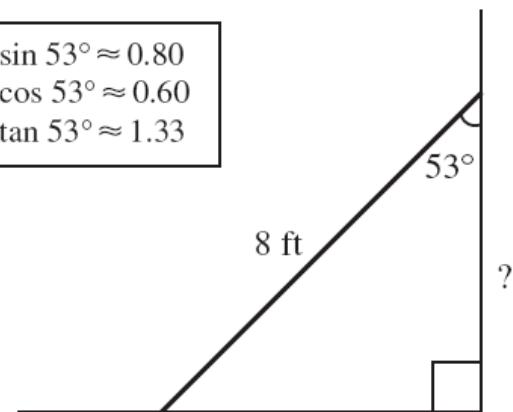


10.

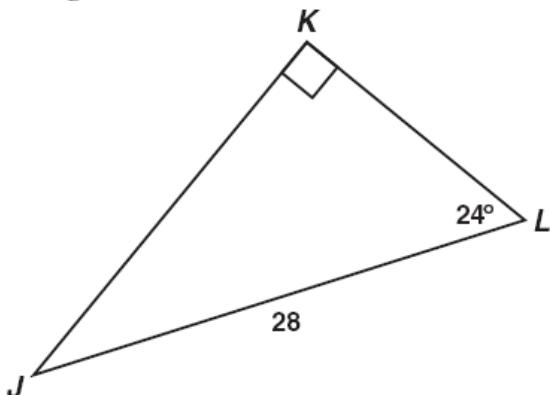


11. The diagram shows an 8-foot ladder leaning against a wall. The ladder makes a  $53^\circ$  angle with the wall. Which is closest to the distance up the wall the ladder reaches?

$$\begin{aligned}\sin 53^\circ &\approx 0.80 \\ \cos 53^\circ &\approx 0.60 \\ \tan 53^\circ &\approx 1.33\end{aligned}$$



13. Triangle  $JKL$  is shown below.



Which equation should be used to find the length of  $\overline{JK}$ ?

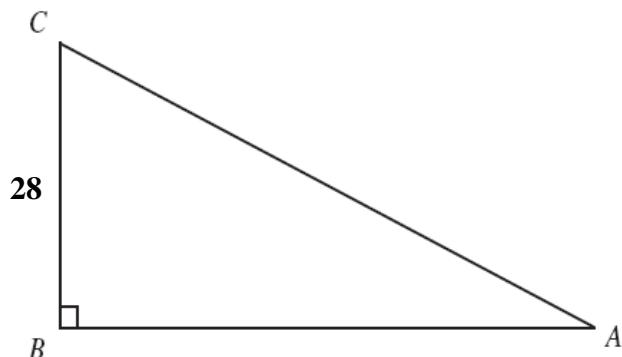
A  $\sin 24^\circ = \frac{JK}{28}$

B  $\sin 24^\circ = \frac{28}{JK}$

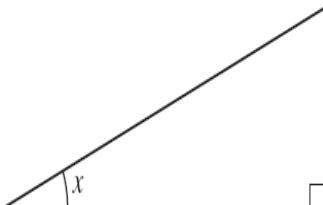
C  $\cos 24^\circ = \frac{JK}{28}$

D  $\cos 24^\circ = \frac{28}{JK}$

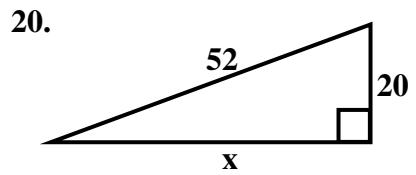
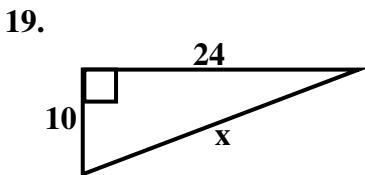
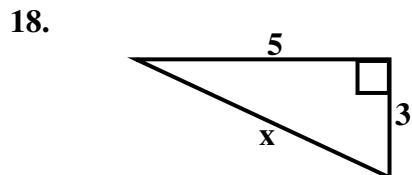
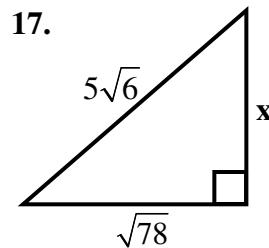
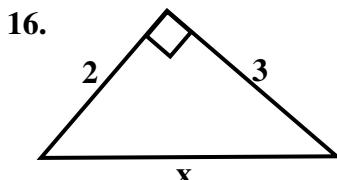
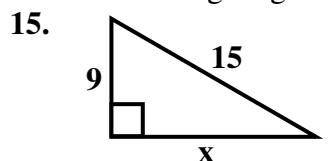
12. In the figure below,  $\sin A = 0.8$ . What is the length of  $\overline{AC}$ ?



14. In the figure below, if  $\cos x = \frac{4}{5}$ , what are  $\sin x$  and  $\tan x$ .



Find the missing length of the right triangle.



Classify a triangle with the given side lengths as right, acute, or obtuse for problems 22 and 23. The side lengths are listed from smallest to largest.

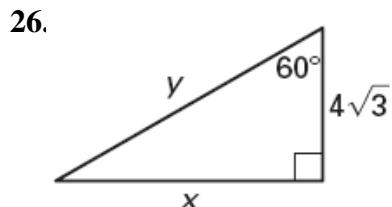
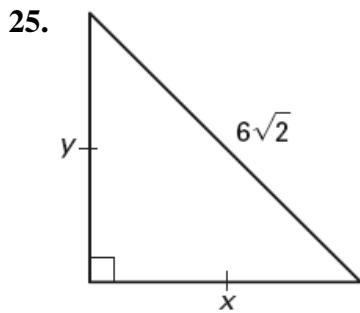
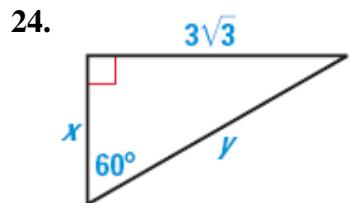
21. 7, 11, 8

22.  $3\sqrt{2}, \sqrt{31}, 7$

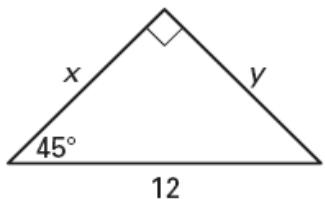
Find the value of  $x$ .

23.  $x\sqrt{3}, 3x, 12$ ; obtuse

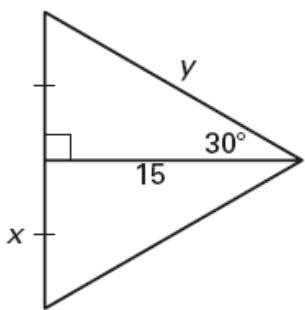
Find the value of the variable(s).



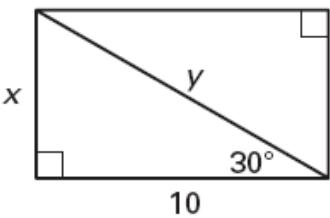
27.



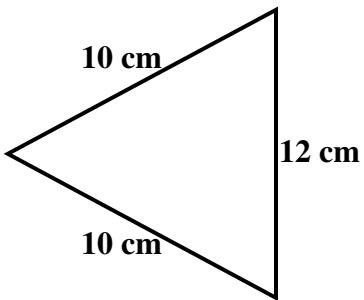
28.



29.



30. Find the area of the triangle.



31. The side length of an equilateral triangle is 16 centimeters. Find the area of the triangle.

32. The area of a square is 36 in.  
Find the length of its diagonal.33. The diagonal of a square is 10 yards.  
Find its area.**Answer Key:**

1)  $\sin A = \frac{24}{25}$ ,  $\cos A = \frac{7}{25}$ ,  $\tan A = \frac{24}{7}$ ,  $\sin B = \frac{7}{25}$ ,  $\cos B = \frac{24}{25}$ ,  $\tan B = \frac{7}{24}$     2)  $x = 26 \cos 39^\circ = 20.21$

3)  $x = \frac{12}{\tan 41^\circ} = 13.80$     4)  $x = \frac{11}{\sin 53^\circ} = 13.77$     5)  $x = 14 \cos 37^\circ = 11.18$     6)  $x = \frac{2}{\sin 42^\circ} = 2.99$

7)  $x = 15 \tan 27^\circ = 7.64$     8)  $x = \frac{22}{\tan 58^\circ} = 13.75$     9)  $y = \frac{18}{\sin 37^\circ} = 29.91$     10)  $y = \frac{15}{\cos 19^\circ} = 15.86$

11)  $h = 4.81$  ft    12)  $AC = 35$     13) A    14)  $\sin x = \frac{3}{5}$ ,  $\tan x = \frac{3}{4}$     15)  $x = 12$     16)  $x = \sqrt{13}$     17)  $x = 6\sqrt{2}$

18)  $x = \sqrt{34}$     19)  $x = 26$     20)  $x = 48$     21) Acute    22) Right    23)  $x < 2\sqrt{3}$     24)  $x = 3, y = 6$

25)  $x = 6, y = 6$     26)  $x = 12, y = 8\sqrt{3}$     27)  $x = 6\sqrt{2}, y = 6\sqrt{2}$     28)  $x = 5\sqrt{3}, y = 10\sqrt{3}$

29)  $x = \frac{10\sqrt{3}}{3}, y = \frac{20\sqrt{3}}{3}$     30)  $A = 48 \text{ cm}^2$     31)  $A = 64\sqrt{3} \text{ cm}^2$     32)  $6\sqrt{2} \text{ in.}$     33)  $A = 50 \text{ yd}^2$