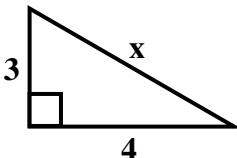
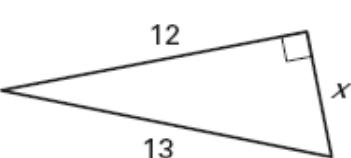
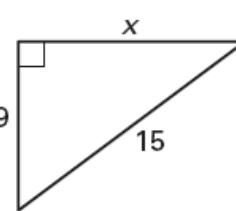
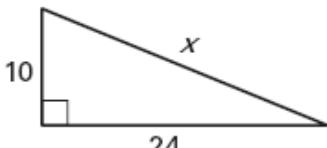
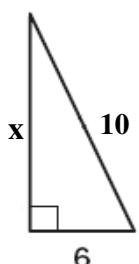
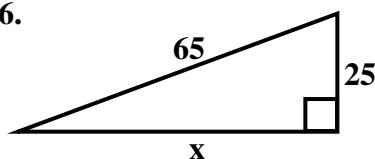
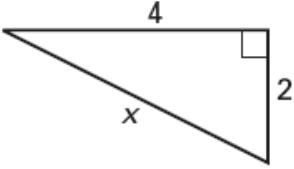
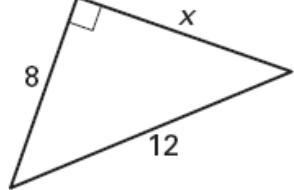
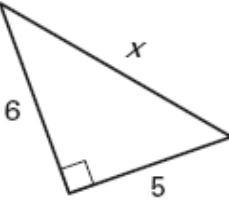
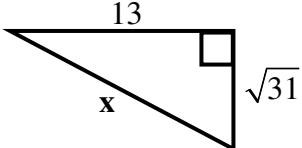
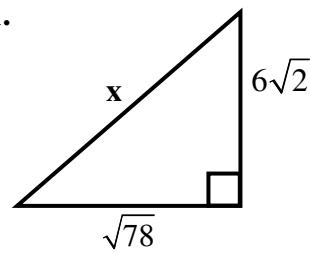
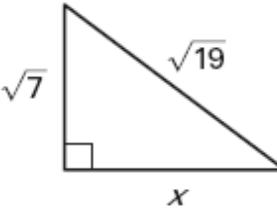


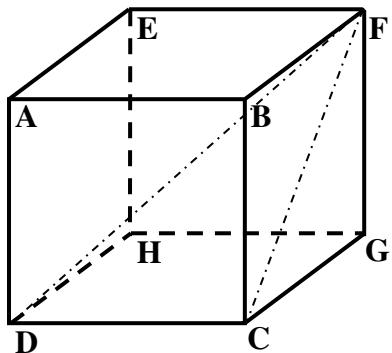
Geometry**Chapter 7 Review Part B**

Name: _____

Find the missing length of the right triangle.

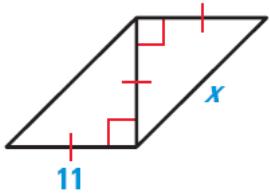
1.  A right triangle with a horizontal leg of 3, a vertical leg of 4, and a hypotenuse labeled x . A right angle symbol is at the vertex where the two legs meet at the bottom-left corner.
2.  A right triangle with a horizontal leg of 12, a vertical leg of 13, and a hypotenuse labeled x . A right angle symbol is at the vertex where the vertical leg meets the hypotenuse at the top-right corner.
3.  A right triangle with a horizontal leg of 9, a vertical leg of 15, and a hypotenuse labeled x . A right angle symbol is at the vertex where the vertical leg meets the hypotenuse at the top-left corner.
4.  A right triangle with a horizontal leg of 10, a vertical leg of 24, and a hypotenuse labeled x . A right angle symbol is at the vertex where the horizontal leg meets the hypotenuse at the bottom-left corner.
5.  A right triangle with a horizontal leg labeled x , a vertical leg of 6, and a hypotenuse of 10. A right angle symbol is at the vertex where the horizontal leg meets the vertical leg at the bottom-left corner.
6.  A right triangle with a horizontal leg labeled x , a vertical leg of 25, and a hypotenuse of 65. A right angle symbol is at the vertex where the vertical leg meets the hypotenuse at the top-right corner.
7.  A right triangle with a horizontal leg of 4, a vertical leg of 2, and a hypotenuse labeled x . A right angle symbol is at the vertex where the vertical leg meets the hypotenuse at the top-right corner.
8.  A right triangle with a horizontal leg of 8, a vertical leg of 12, and a hypotenuse labeled x . A right angle symbol is at the vertex where the horizontal leg meets the vertical leg at the top-left corner.
9.  A right triangle with a horizontal leg of 6, a vertical leg of 5, and a hypotenuse labeled x . A right angle symbol is at the vertex where the vertical leg meets the hypotenuse at the bottom-right corner.
10.  A right triangle with a horizontal leg labeled x , a vertical leg of $\sqrt{31}$, and a hypotenuse of 13. A right angle symbol is at the vertex where the vertical leg meets the hypotenuse at the top-right corner.
11.  A right triangle with a horizontal leg labeled x , a vertical leg of $\sqrt{78}$, and a hypotenuse of $6\sqrt{2}$. A right angle symbol is at the vertex where the horizontal leg meets the vertical leg at the bottom-left corner.
12.  A right triangle with a horizontal leg of $\sqrt{7}$, a vertical leg labeled x , and a hypotenuse of $\sqrt{19}$. A right angle symbol is at the vertex where the horizontal leg meets the vertical leg at the bottom-left corner.

13. The figure below is a cube with side lengths 3 units. Find FC and FD.

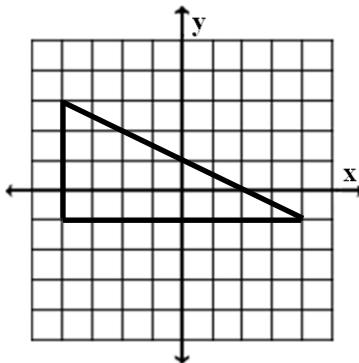


Find the value of x.

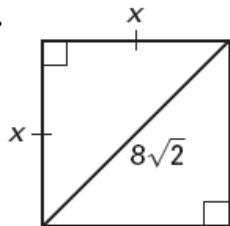
15.



14. Find the length of the hypotenuse of the triangle.

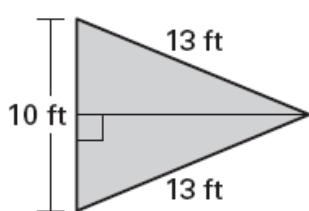


16.



Find the area of the triangle

17.



Classify a triangle with the given side lengths as right, acute, or obtuse.

Note: The side lengths are listed from smallest to largest.

18. $4, \sqrt{15}, \sqrt{33}$

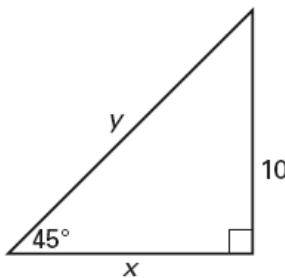
19. $3\sqrt{2}, \sqrt{31}, 7$

Find the value of x.

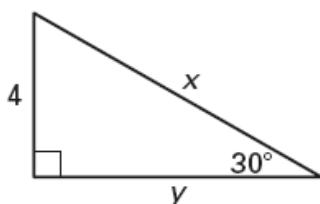
20. $x\sqrt{3}, 3x, 12$; acute

Find the value of the variable(s).

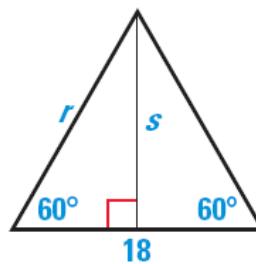
21.

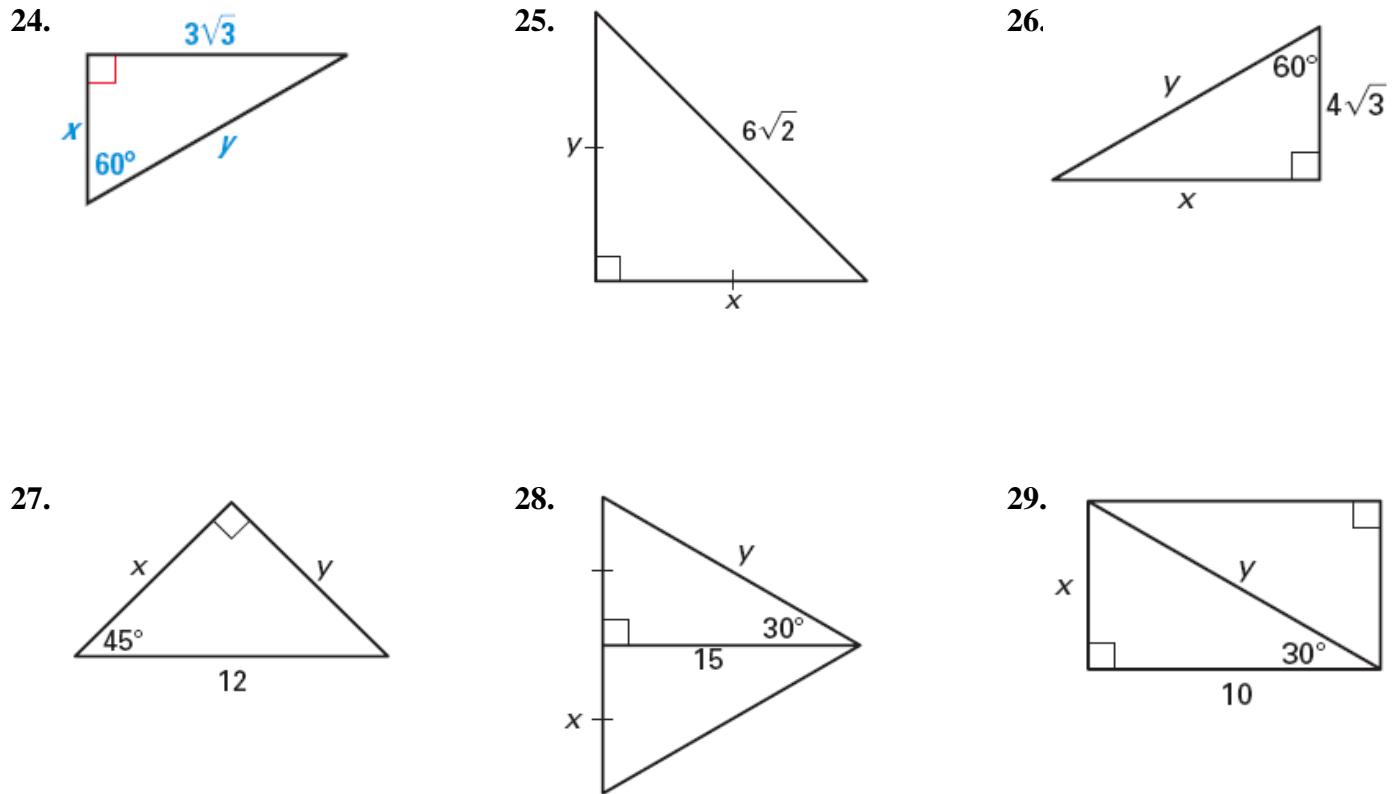


22.



23.





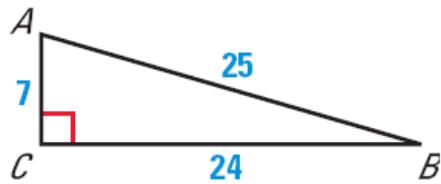
30. The side length of an equilateral triangle is 20 centimeters. Find the area of the triangle.

31. The perimeter of a square is 20 feet. Find the length of a diagonal.

32. The altitude (height) of an equilateral triangle is 18 inches. Find the length of a side.

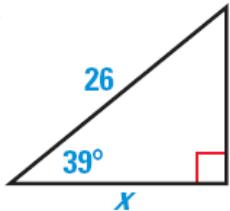
33. The diagonal of a square is 8 yards. Find its area.

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

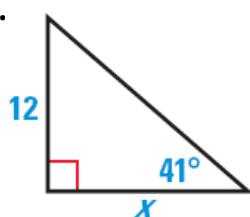


Find the value of the variable.

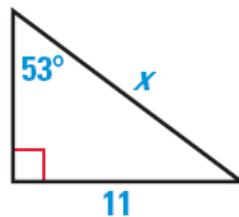
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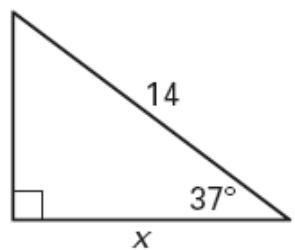
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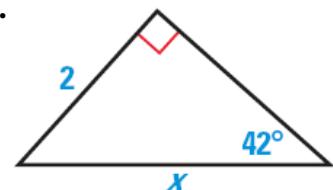
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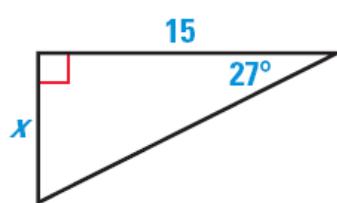
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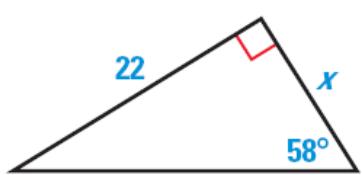
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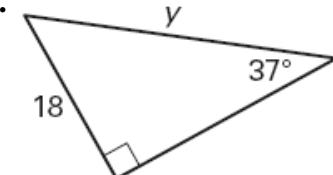
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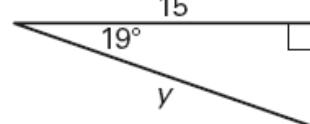
41.



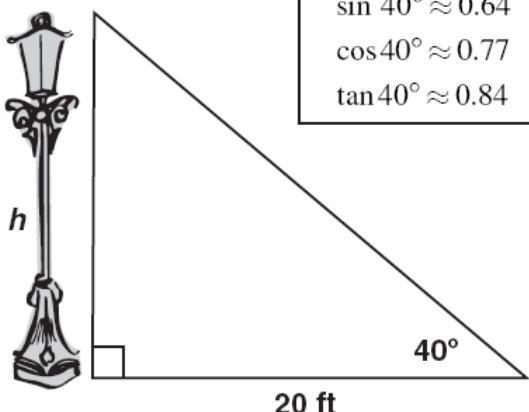
42.



43.



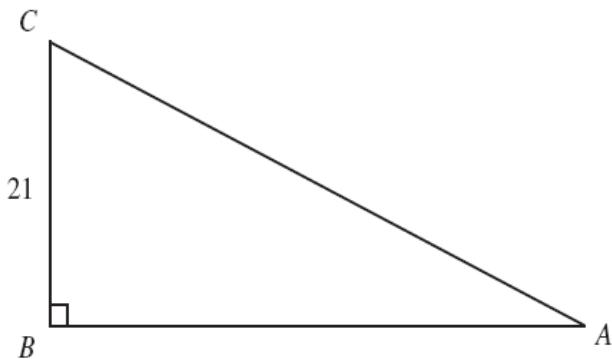
44. Approximately how many feet tall is the streetlight?



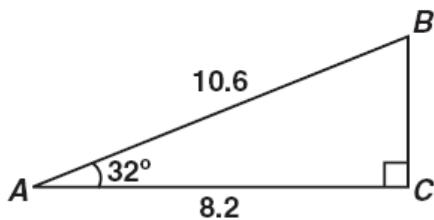
$$\begin{aligned}\sin 40^\circ &\approx 0.64 \\ \cos 40^\circ &\approx 0.77 \\ \tan 40^\circ &\approx 0.84\end{aligned}$$

45. In the figure below, $\sin A = 0.7$.

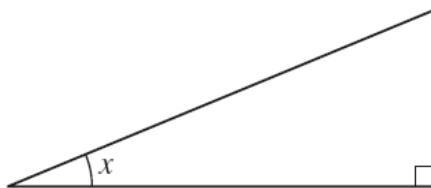
What is the length of \overline{AC} ?



46. Right triangle ABC is pictured below.



47. In the figure below, if $\sin x = \frac{5}{13}$, what are $\cos x$ and $\tan x$?



Which equation gives the correct value for BC ?

A $\sin 32^\circ = \frac{BC}{8.2}$

B $\cos 32^\circ = \frac{BC}{10.6}$

C $\tan 58^\circ = \frac{8.2}{BC}$

D $\sin 58^\circ = \frac{BC}{10.6}$

Answer Key:

- 1) $x = 5$ 2) $x = 5$ 3) $x = 12$ 4) $x = 26$ 5) $x = 8$ 6) $x = 60$ 7) $x = 2\sqrt{5}$ 8) $x = 4\sqrt{5}$
9) $x = \sqrt{61}$ 10) $x = 10\sqrt{2}$ 11) $x = 5\sqrt{6}$ 12) $x = 2\sqrt{3}$ 13) $FC = 3\sqrt{2}, FD = 3\sqrt{3}$ 14) $4\sqrt{5}$
15) $x = 11\sqrt{2}$ 16) $x = 8$ 17) $A = 60 \text{ ft}^2$ 18) Obtuse 19) Right 20) $x > 2\sqrt{3}$ 21) $x = 10, y = 10\sqrt{2}$
22) $x = 8, y = 4\sqrt{3}$ 23) $s = 9\sqrt{3}, r = 18$ 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) $A = 100\sqrt{3} \text{ cm}^2$
31) $d = 5\sqrt{2} \text{ ft}$ 32) $12\sqrt{3} \text{ in.}$ 33) $A = 32 \text{ yd}^2$
34) $\sin A = \frac{24}{25}, \cos A = \frac{7}{25}, \tan A = \frac{24}{7}, \sin B = \frac{7}{25}, \cos B = \frac{24}{25}, \tan B = \frac{7}{24}$ 35) $x = 26 \cos 39^\circ$
36) $x = \frac{12}{\tan 41^\circ}$ 37) $x = \frac{11}{\sin 53^\circ}$ 38) $x = 14 \cos 37^\circ$ 39) $x = \frac{2}{\sin 42^\circ}$ 40) $x = 15 \tan 27^\circ$ 41) $x = \frac{22}{\tan 58^\circ}$
42) $y = \frac{18}{\sin 37^\circ}$ 43) $y = \frac{15}{\cos 19^\circ}$ 44) $h = 16.8 \text{ ft}$ 45) $AC = 30$ 46) C 47) $\cos x = \frac{12}{13}, \tan x = \frac{5}{12}$