Geometry Name:_____
Assignment 7.1

1. The two sides of a right triangle that make the right angle are called the _____. The side opposite of the right angle is called the _____.

2. The hypotenuse is always the _____ side of a right triangle.

3. Given two sides of a right triangle, the _____ can be used to solve for the third.

4. The formula for the Pythagorean Theorem is _____ or _____.

5. A Pythagorean Triple is a set of _____ numbers that satisfy the Pythagorean Theorem.

6. The two most common Pythagorean Triples are ____ , ____ , ____ and ____ , ____ , ____ .

7. The length of a missing side of a right triangle can always be determined using the Pythagorean Theorem, but sometimes it can be much easier to solve by applying a _____.

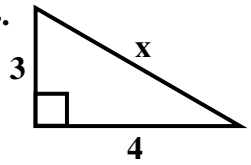
Simplify the radical.

8. $\sqrt{12}$ **9.** $\sqrt{48}$ **10.** $\sqrt{20}$

11. $\sqrt{18}$ **12.** $\sqrt{60}$ **13.** $\sqrt{300}$

Find the missing length of the right triangle by identifying Pythagorean Triples.

14.



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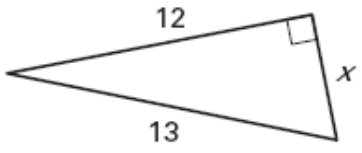

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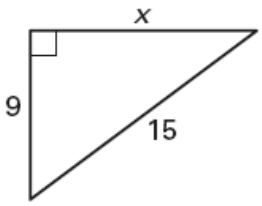

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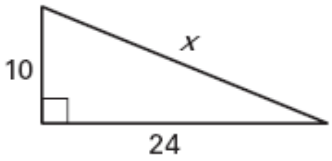

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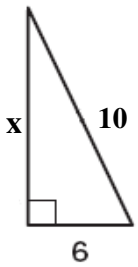

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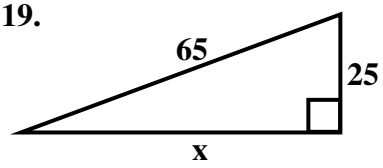
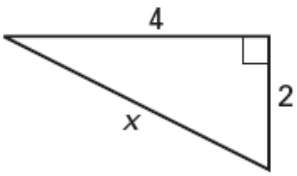


Find the missing length of the right triangle.

20.



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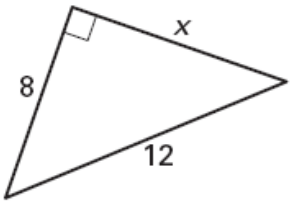

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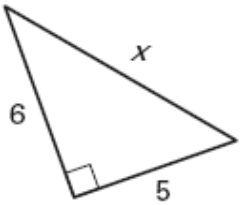

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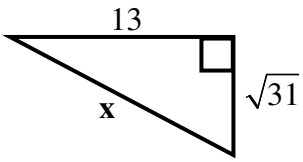

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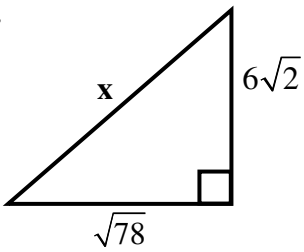

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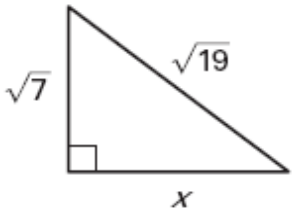
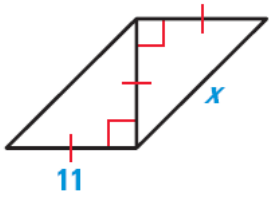


Find the value of x.

26.



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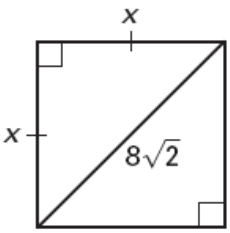
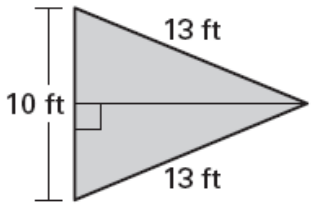


Find the area of the triangle

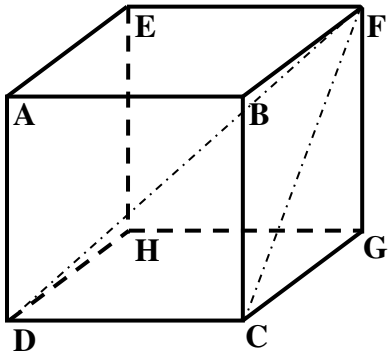
28.



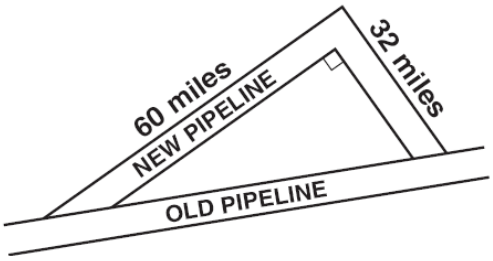
29. A right triangle has hypotenuse 7 cm and leg 5 cm. What is the length of the other leg?

30. Both legs of a triangle have a length of 8 in. What is the length of the hypotenuse?

31. The figure below is a cube with side lengths 6 units. Find FC and FD.



32. A new pipeline is being constructed to re-route Its oil flow around the exterior of a national wildlife preserve. The plan showing the old pipeline and the new route is shown below.



About how many extra miles will the oil flow once the new route is established?

Answer Key:

1) legs, hypotenuse **2)** longest **3)** Pythagorean Theorem **4)** $\textbf{(leg)}^2 + \textbf{(leg)}^2 = \textbf{(hypotenuse)}^2$, $a^2 + b^2 = c^2$
5) whole **6)** 3, 4, 5 and 5, 12, 13 **7)** Pythagorean Triple **8)** $2\sqrt{3}$ **9)** $4\sqrt{3}$ **10)** $2\sqrt{5}$ **11)** $3\sqrt{2}$
12) $2\sqrt{15}$ **13)** $10\sqrt{3}$ **14)** $x = 5$ **15)** $x = 5$ **16)** $x = 12$ **17)** $x = 26$ **18)** $x = 8$ **19)** $x = 60$
20) $x = 2\sqrt{5}$ **21)** $x = 4\sqrt{5}$ **22)** $x = \sqrt{61}$ **23)** $x = 10\sqrt{2}$ **24)** $x = 5\sqrt{6}$ **25)** $x = 2\sqrt{3}$
26) $x = 11\sqrt{2}$ **27)** $x = 8$ **28)** $A = 60\,\text{ft}^2$ **29)** $2\sqrt{6}$ **30)** $8\sqrt{2}$ **31)** $FC = 6\sqrt{2}$, $FD = 6\sqrt{3}$ **32)** 24 miles