Geometry Name:_____

Assignment 7.2

1. If $a^2 + b^2$ is _____ to c^2, then the triangle is a right triangle.

2. If $a^2 + b^2$ is _____ to c^2, then the triangle is an acute triangle.

3. If $a^2 + b^2$ is _____ to c^2, then the triangle is an obtuse triangle.

4. a and b are always the _____ lengths and c is always the _____.

Classify a triangle with the given side lengths as right, acute, or obtuse.
Note: The side lengths are listed from smallest to largest.

5. 5, 12, 13

6. 8, 10, 12

7. $7, 7, 11$

8. $\sqrt{10}, 5, 6$

9. $3\sqrt{2}, \sqrt{31}, 7$

10. $\sqrt{10}, \sqrt{11}, \sqrt{12}$

The sides and classification of a triangle are given below. The length of the longest side is the integer given. What value(s) of x make the triangle?

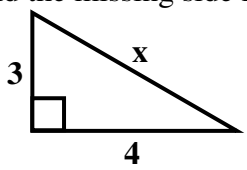
11. x, x, 12; obtuse

12. x, x, 10; right

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

Find the missing side length of the right triangle. **Reminder:** Apply Pythagorean Triples if possible.

14.



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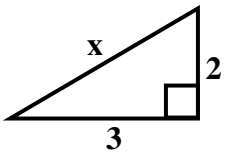

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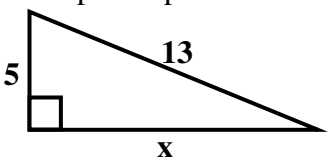

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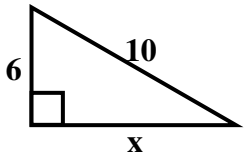

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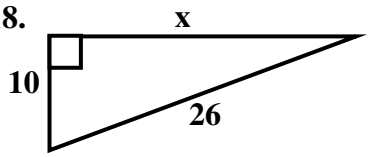

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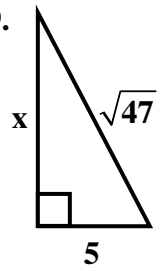
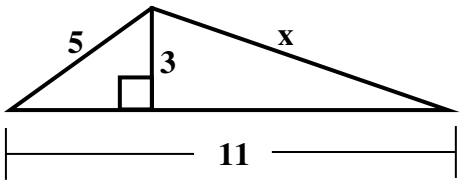
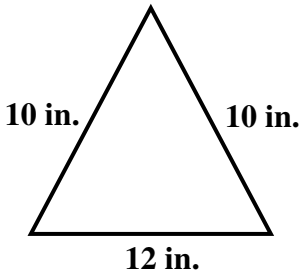


20. Find the value of x.

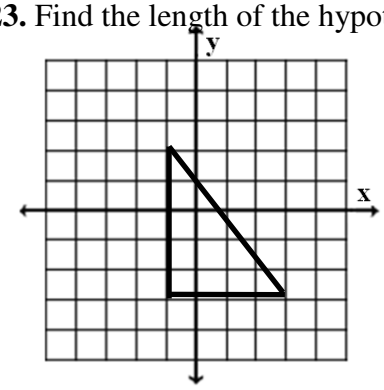


21. Find the area of the triangle.



22. A right triangle has hypotenuse $\sqrt{68}$ cm and leg $\sqrt{8}$ cm. What is the length of the other leg?

23. Find the length of the hypotenuse of the triangle.



Answer Key:

1) equal (=) **2)** greater than (>) **3)** less than (<) **4)** Smallest, largest **5)** Right **6)** Acute **7)** Obtuse
8) Obtuse **9)** Right **10)** Acute **11)** $x < 6\sqrt{2}$ **12)** $x = 5\sqrt{2}$ **13)** $x > 2\sqrt{3}$ **14)** $x = 5$ **15)** $x = \sqrt{13}$
16) $x = 12$ **17)** $x = 8$ **18)** $x = 24$ **19)** $x = \sqrt{22}$ **20)** $x = \sqrt{58}$ **21)** $A = 48$ in.^{2} **22)** $2\sqrt{15}$ **23)** $\sqrt{41}$