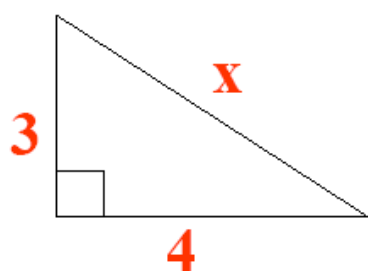**Name:** _____

The Pythagorean Theorem

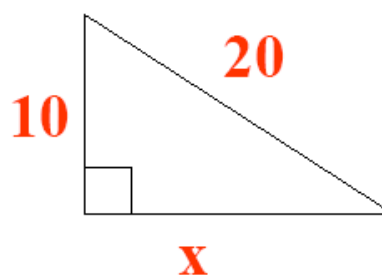**Exercise 1:** The lengths of three sides of a triangle are given. Determine whether each triangle is a right triangle.

1) 11 in., 12 in., 16 in.
2) 11 cm, 60 cm, 61 cm
3) 6 ft, 8 ft, 9 ft
4) 6 mi, 7 mi, 12 mi
5) 45 m, 60 m, 75 m
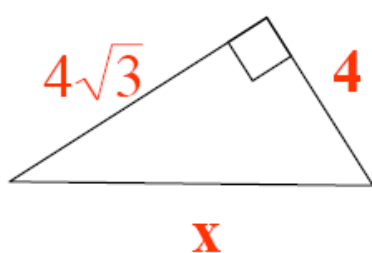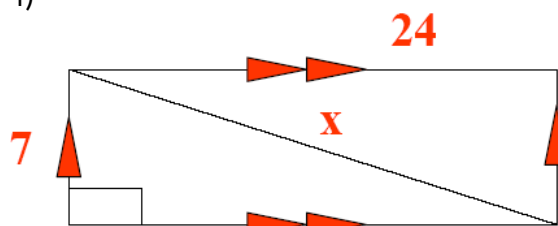6) 1 mm, 1 mm, $\sqrt{2}$ mm
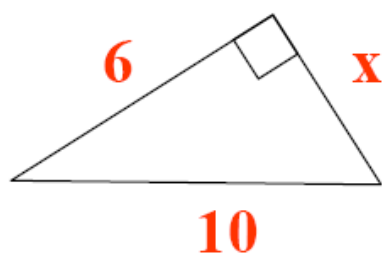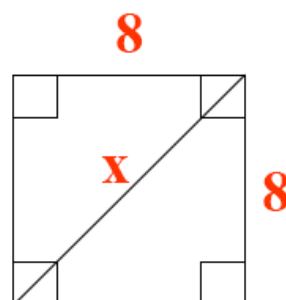
Exercise 2: Find the value of x

1)

2)

3)

4)

5)

6)

7)

5   5
   x
   8

8)

11
13   x   x   13
   21

9)

6
6
x   x

10)

5
8   x
11

11)

10   x
6   15

12)
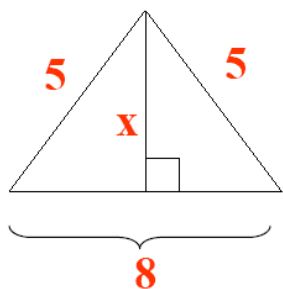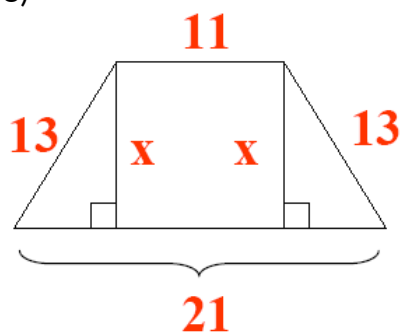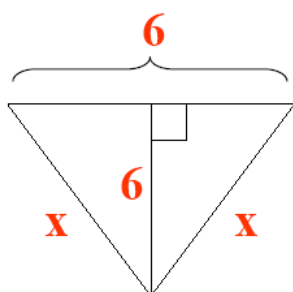
9   25   x
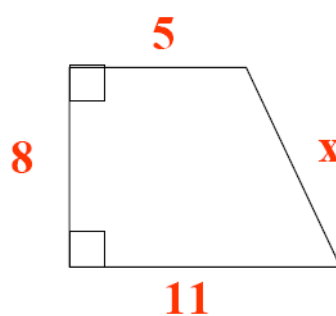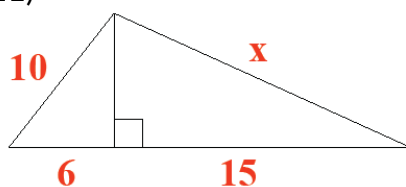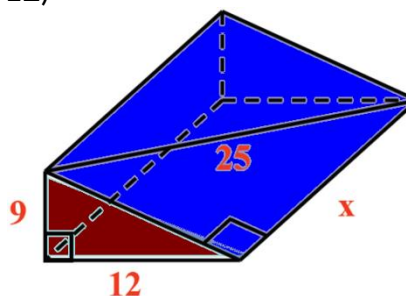12

Exercise 3: Use the Pythagorean Theorem:

1) A rectangle has a length 2.4 and width 1.8. Find the length of a diagonal.

2) Find the length of a diagonal of a square with perimeter 16.

3) The diagonals of a rhombus have lengths 16 and 30. Find the perimeter of the rhombus.

Exercise 4: A right triangle has legs of 6 & 8. Find the lengths of:

1) the median to the hypotenuse
2) the altitude to the hypotenuse