

Pythagorean Theorem Worksheet

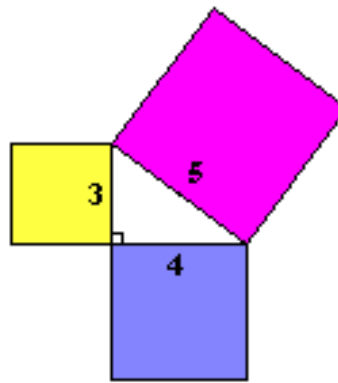
Technical Definition: In a right-angled triangle the square of the hypotenuse is equal to the sum of the squares of the other two sides.

Simply put, the long part of a right-angle triangle (i.e. a triangle with one 90° angle) is the hypotenuse. If you drew a perfect square from each side of the triangle, then the area of the two sides (i.e. each side individually "squared") added together would equal the long part of the triangle's (hypotenuse) square area.

Therefore... $a^2 + b^2 = c^2$

A and B representing the two 90° sides.

Let's see if this works:



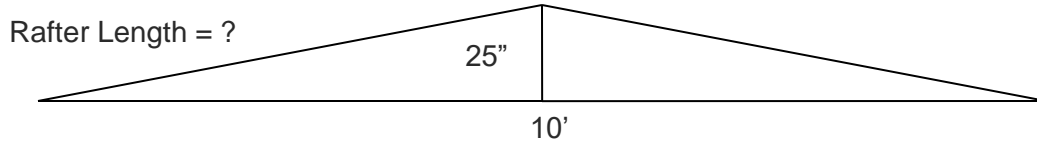
$$3^2 + 4^2 = 5^2 \text{ or } 9 + 16 = 25$$

YES! It Does Work!

Practice:

1. You are conventionally framing a gabled roof. Your ridge is 25" high and the structure's width is 10'.

How long should each rafter be?



2. You must build a staircase connecting the first and second floors of a custom home. The first floor is 9' high. The stair stringers must be 15' long. What is the horizontal footprint of the staircase?

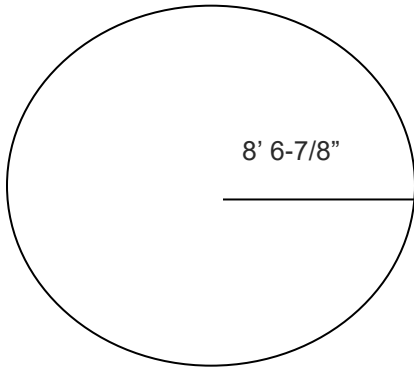
3. Using the horizontal footprint measurement, you established in question 2, calculate the **area** of the staircase footprint assuming the stairs are 4' wide.

**Remember to record your answers in square units.*

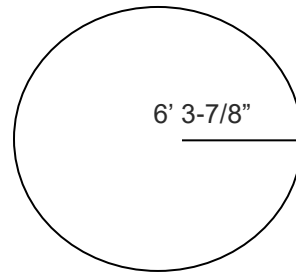
Area Worksheet

Directions: Find the area of each drawing and enter your answers below.

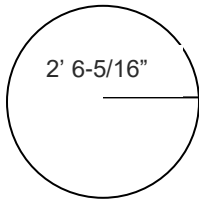
1.



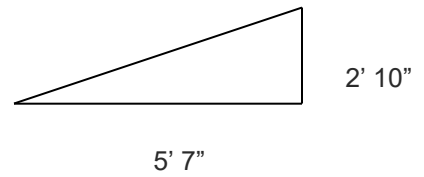
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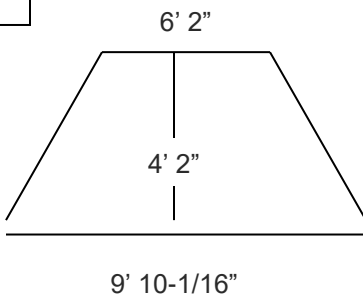
3.



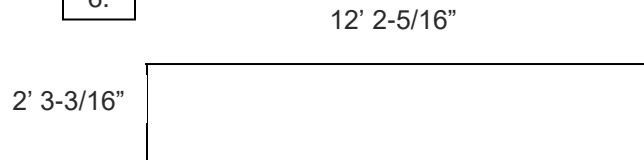
4.



5.

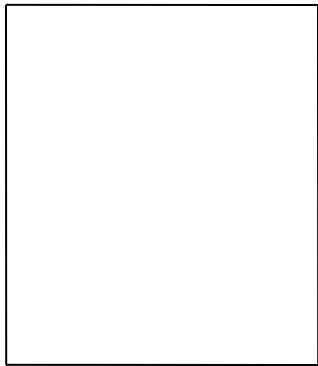


6.



BUILDING INDUSTRY TECHNOLOGY ACADEMY: YEAR ONE CURRICULUM

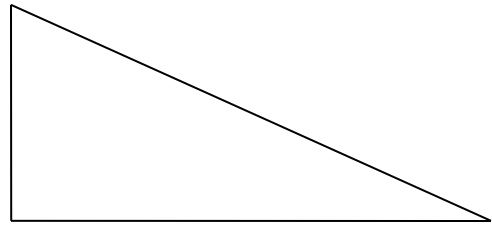
7.



10' 8-11/16"

7' 8-1/4"

8.



5'

10'

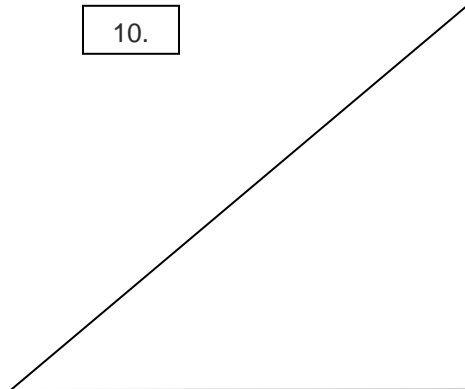
9.



4' 10"

11' 11-3/16"

10.



11' 4"

7' 8"

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.