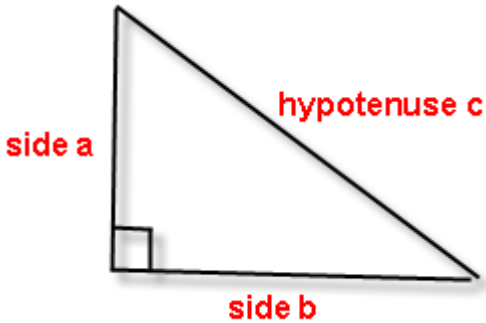


Module 6.A : Geometry

Learning Objectives:

1. Use the Pythagorean Theorem to find the missing side of a right triangle.
2. Find the perimeter of a rectangular figure.
3. Find the area of a composite figure.
4. Find the area of the shaded portion of a figure.
5. Interpret applied problems with volume.

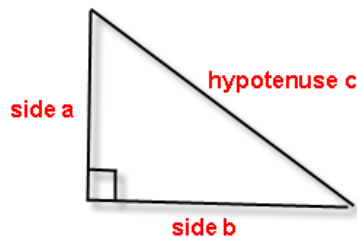
SECTION 1 : Use the Pythagorean Theorem to find the missing side of a right triangle.



In a right triangle, the sum of the squares of the sides is equal to the square of the hypotenuse. $a^2 + b^2 = c^2$.

EXERCISE 1

For the triangle below, find the missing sides exactly and then approximate the value to the nearest tenth.



a) $a = 5, b = 3$.

b) $b = 4, c = 9$

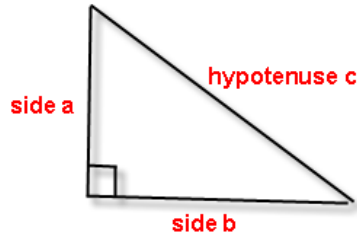
SOLUTION

a) $a = 5, b = 3$. $a^2 + b^2 = c^2 \Rightarrow 5^2 + 3^2 = c^2 \Rightarrow 25 + 9 = c^2 \Rightarrow 34 = c^2 \Rightarrow c = \sqrt{34} \approx 5.8$

b) $b = 4, c = 9$ $a^2 + b^2 = c^2 \Rightarrow a^2 + 4^2 = 9^2 \Rightarrow a^2 + 16 = 81 \Rightarrow a^2 = 65 \Rightarrow a = \sqrt{65} \approx 8.1$

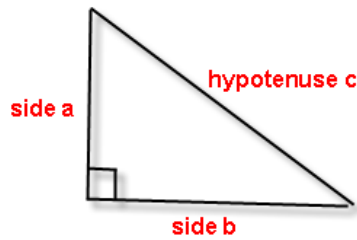
MODULE 6.A - ASSESSMENT

_____1. For the triangle below, find the length of the missing side to the nearest tenth if $b = 7$ and $c = 14$.



- A 7 B 147 C 12.1 D 15.7 E I do not know

_____2. For the triangle below, find the length of the missing side to the nearest tenth if $a = 5$ and $b = 2$.



- A 21 B 5.4 C 4.6 D 29 E I do not know