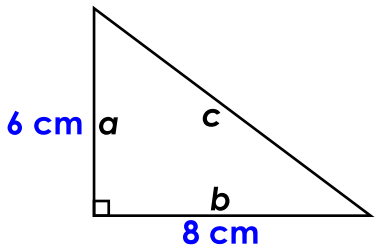
Name: _____

Pythagorean Theorem

The Pythagorean Theorem can be used to find the length of a side of a right triangle if the lengths of the other two sides are known. The formula to find the length of any side of a right triangle is $a^2 + b^2 = c^2$. The **hypotenuse** is side **c**.

example:



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

$6^2 + 8^2 = c^2$

$36 + 64 = c^2$

$100 = c^2$

$10 = c$

Find the length of each hypotenuse. Use a calculator to solve and round to the nearest tenth.

Tell whether each set of lengths forms a right triangle. Write **RIGHT TRIANGLE** if it is, or **NO** if it is not.

a=15 cm, b=20 cm, c=25 cm _____

a=7 m, b=4 m, c=10 m _____

a=30 mm, b=22 mm, c=12 mm _____

a=36 km, b=27 km, c=45 km _____

a=1.8 mm, b=3.2 mm, c=2.4 mm _____

ANSWER KEY

Pythagorean Theorem

The Pythagorean Theorem can be used to find the length of a side of a right triangle if the lengths of the other two sides are known. The formula to find the length of any side of a right triangle is $a^2 + b^2 = c^2$. The **hypotenuse** is side **c**.

a=30 mm, b=22 mm, c=12 mm — **no**

a=36 km, b=27 km, c=45 km — **RIGHT TRIANGLE**

a=1.8 mm, b=3.2 mm, c=2.4 mm — **no**