NudgeLearn

Grade 8 · Math

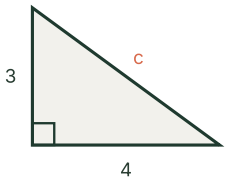
The *Pythagorean* Theorem

8.G.B.6 8.G.B.7

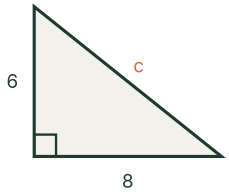
Name _____ Date _____

Use $a^2 + b^2 = c^2$, where c is the hypotenuse. Show your work. Give whole-number answers when possible; otherwise write the answer in simplest radical form.

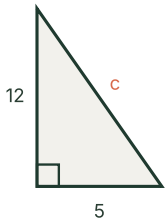
1. Find the length of the hypotenuse c.



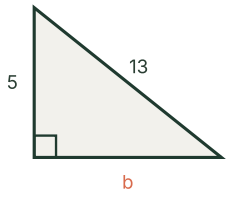
2. Find the length of the hypotenuse c.



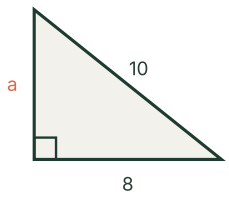
3. Find the length of the hypotenuse c.



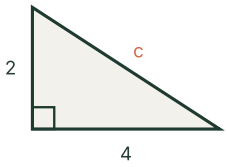
4. The hypotenuse is 13 and one leg is 5. Find the length of the other leg b.



5. The hypotenuse is 10 and one leg is 8. Find the length of the other leg a.

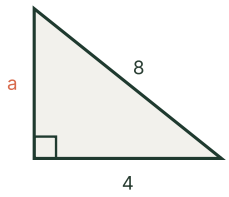


6. Find the length of the hypotenuse c. Give your answer in simplest radical form.

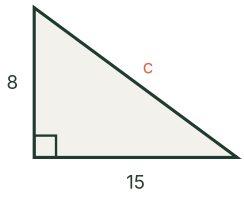


7. A right triangle has legs of length 1 and 3. Find the length of the hypotenuse in simplest radical form.

8. The hypotenuse is 8 and one leg is 4. Find the other leg in simplest radical form.



9. Find the length of the hypotenuse c.



10. A right triangle has legs of length 9 cm and 12 cm. How long is the hypotenuse?

11. Which set of side lengths forms a right triangle?

A) $4, 5, 6$

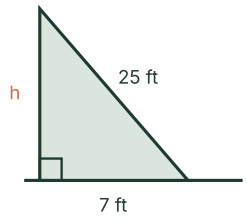
B) $7, 24, 25$

C) $5, 6, 8$

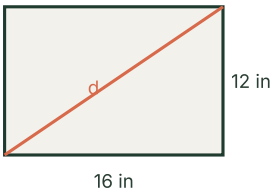
D) $9, 10, 13$

12. Is a triangle with sides 6, 8, and 11 a right triangle? Explain using the Pythagorean theorem.

13. A 25-foot ladder leans against a wall. Its base is 7 feet from the wall. How high up the wall does the ladder reach?



14. A rectangular TV screen is 16 inches wide and 12 inches tall. Find the length of its diagonal.



15. A soccer field is 80 m long and 60 m wide. A player runs straight from one corner to the opposite corner. How far does she run?