

Pythagorean Triples

Recognise and use sets of three numbers that form right-angled triangles.



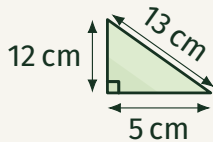
Name _____

Date _____

Check and complete

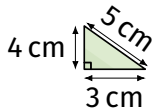
For each triangle, use Pythagoras' theorem to verify it forms a triple, or find the missing side to complete the triple.

Worked example Check that 5, 12, 13 form a Pythagorean triple.

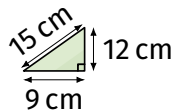


Using $a^2 + b^2 = c^2$: $5^2 + 12^2 = 25 + 144 = 169 = 13^2$ Yes, (5, 12, 13) is a Pythagorean triple.

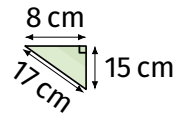
1. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



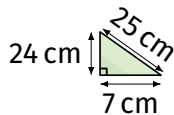
2. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



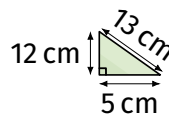
3. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



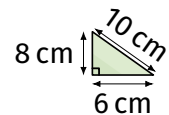
4. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



5. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



6. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



7. (3, 4, 5) is a Pythagorean triple.
Find the triple formed by multiplying every side by 4.

8. (5, 12, 13) is a Pythagorean triple. A triangle has sides 10, 24, and x . Use the triple to find x .

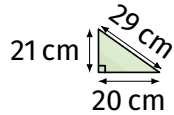
9. (3, 4, 5) is a Pythagorean triple. A triangle has sides 15, 20, and x . Use the triple to find x .

10. A right-angled triangle has side lengths in the ratio 3 : 4 : 5. If the longest side is 20 cm, find the other two sides.

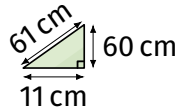
11. A right-angled triangle has side lengths in the ratio 5 : 12 : 13. If the shortest side is 15 cm, find the longest side.

12. A right-angled triangle has side lengths in the ratio 8 : 15 : 17. If the shortest side is 16 cm, find the hypotenuse.

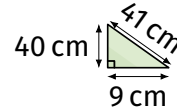
13. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



14. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



15. Is this a Pythagorean triple?
Check using $a^2 + b^2 = c^2$.



16. (8, 15, 17) is a Pythagorean triple. Find the triple formed by multiplying every side by 3.

17. A right-angled triangle has side lengths in the ratio 7 : 24 : 25. If the longest side is 50 cm, find the other two sides.

18. (6, 8, 10) is a Pythagorean triple. Find the triple formed by multiplying every side by 5.
