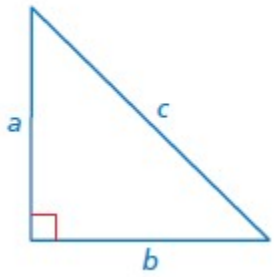
Section 9.6: The Converse of the Pythagorean Theorem
In Class Notes

Name: _____

Key Idea

Converse of the Pythagorean Theorem

If the equation $a^2 + b^2 = c^2$ is true for the side lengths of a triangle, then the triangle is a right triangle.

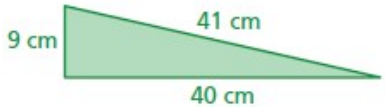


Identifying Right Triangles

Ex:) Tell whether each triangle is a right triangle.

Notes:

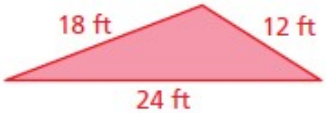
a.



Common Error

When using the converse of the Pythagorean Theorem, always substitute the length of the longest side for c.

b.



OYO:) Tell whether the triangle with the given side lengths is a right triangle.

Notes:

a. 28 in., 21 in., 20 in.

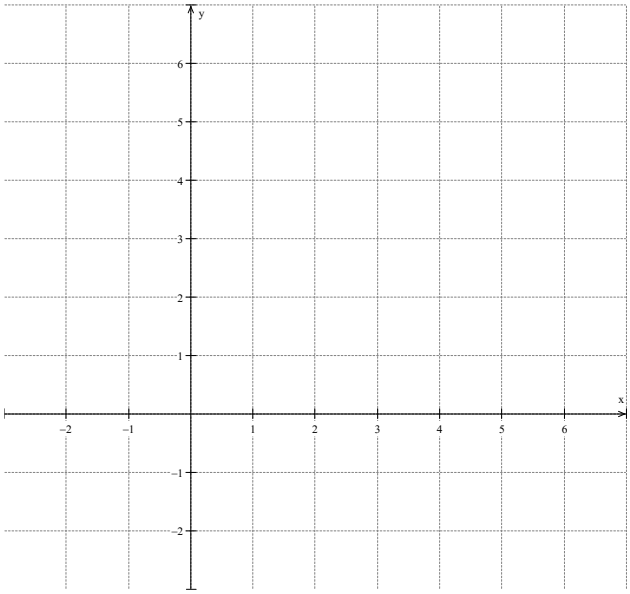
A *Pythagorean triple* is a set of three positive integers a, b, and c, where $a^2 + b^2 = c^2$.

b. 1.25 mm, 1 mm, 0.75 mm

Identifying a Right Triangle

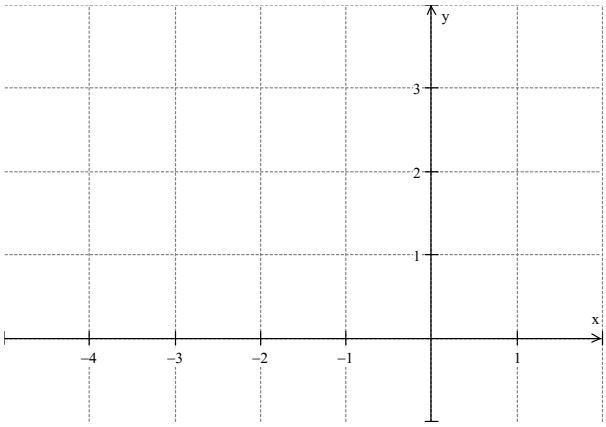
Ex:) Tell whether the points A(1, 1), B(3, 5), and C(3, 0) form a right triangle.

Notes:



OYO:) Tell whether the points D(-4, 0), E(-2, 3), and F(1, 0) form a right triangle.

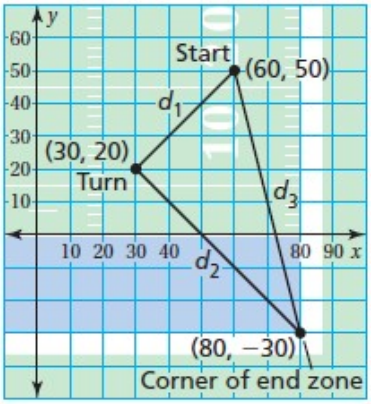
Notes:



Modeling Real Life

Ex:) You design a football play in which a player runs down the field, makes a 90° turn, and runs to the corner of the end zone. Your friend ran the play as shown, where each grid line represents 10 feet. Did your friend run the play correctly?

Notes:



OYO:) You practice archery as shown. Determine whether the arrow is perpendicular to the vertical support. Justify your answer.

Notes: