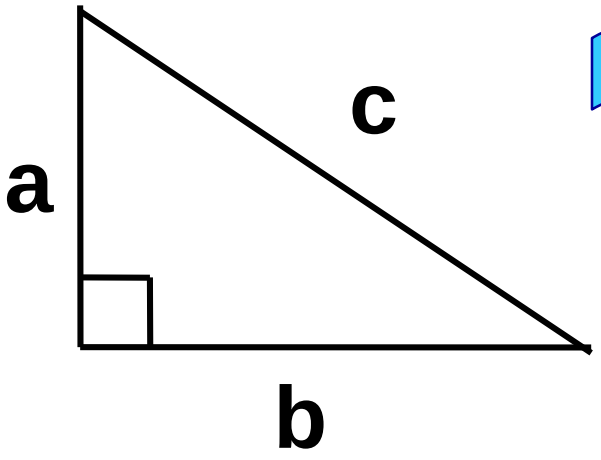
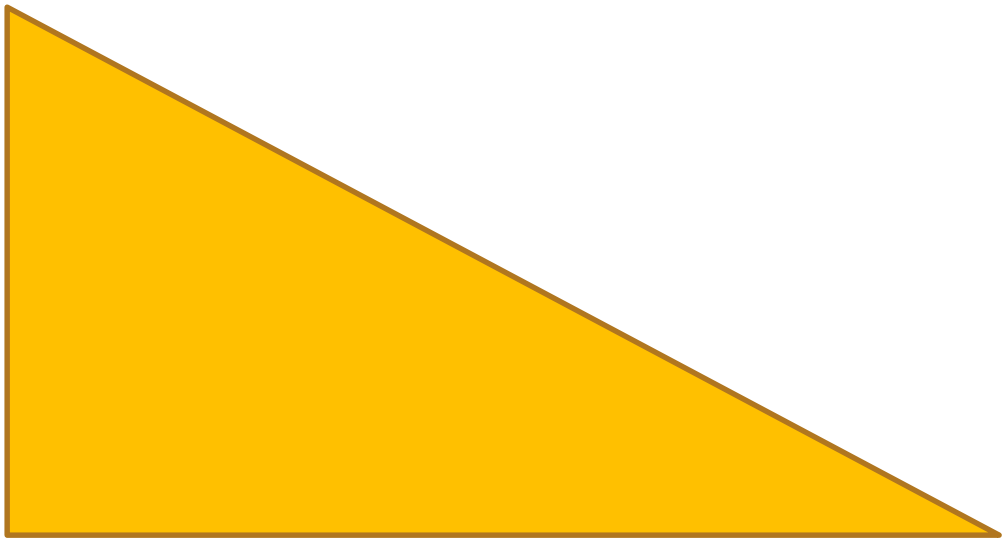
The Pythagorean Theorem

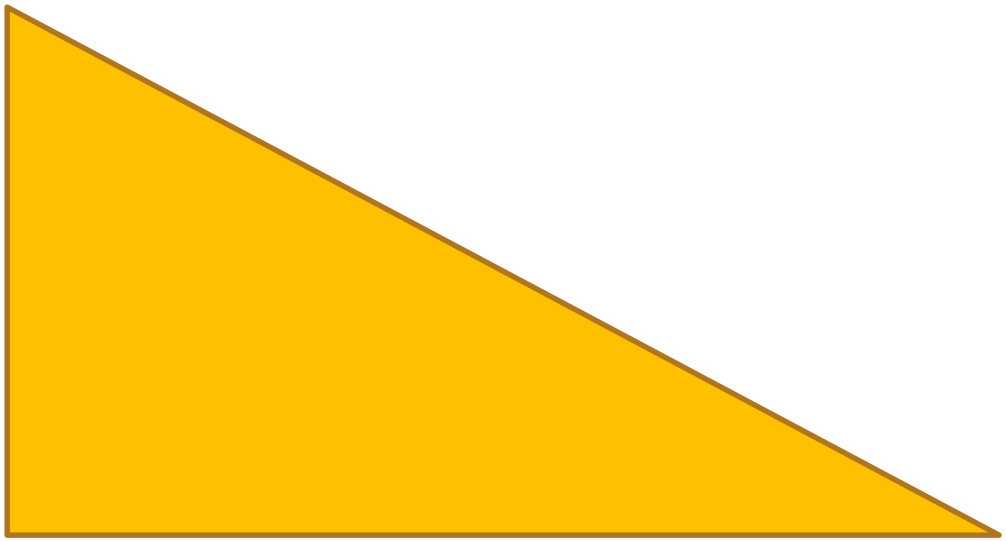
7.5

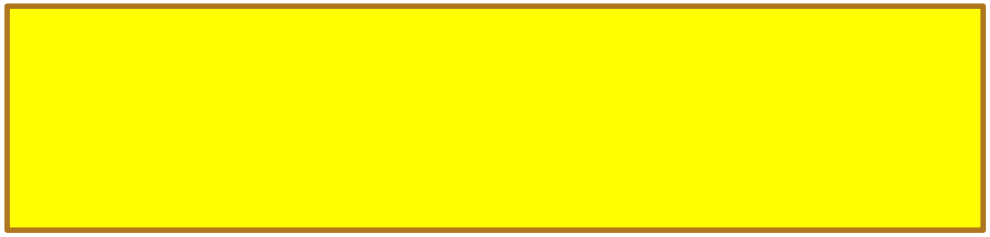


Parts of a Right Triangle



Pythagorean Theorem

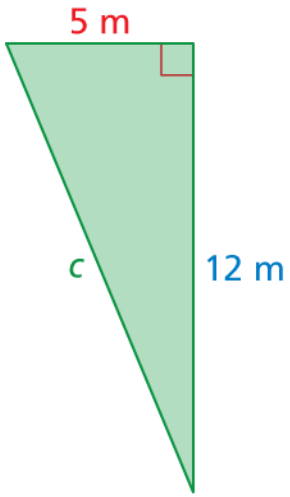




Pythagorean Theorem

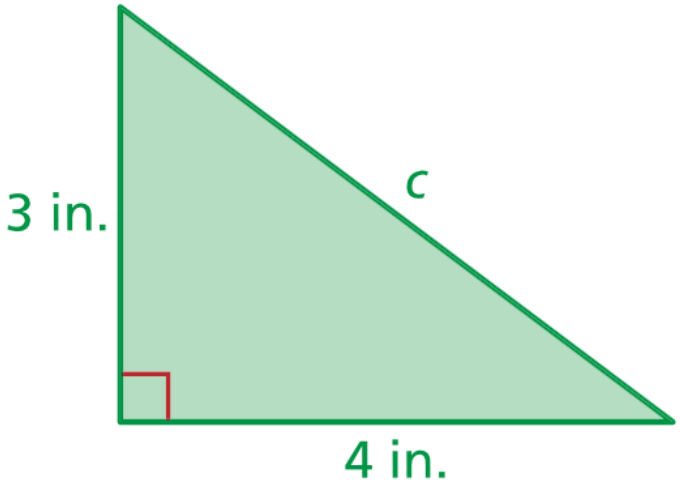
Find the length of the hypotenuse of the triangle.

1)



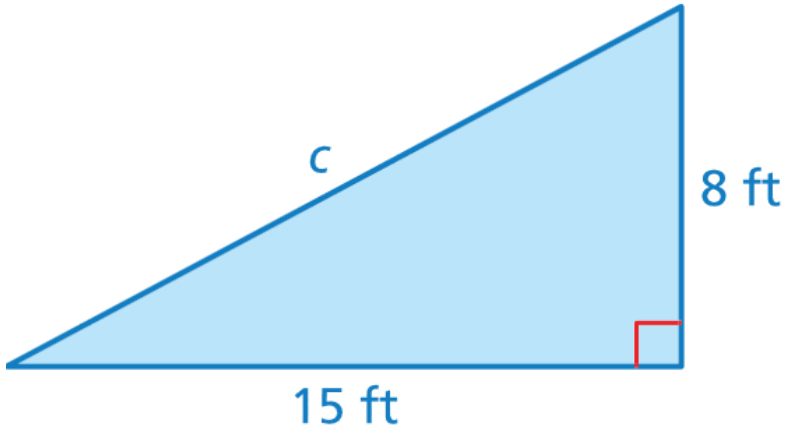
Pythagorean Theorem

2) Find the length of the hypotenuse of the triangle.



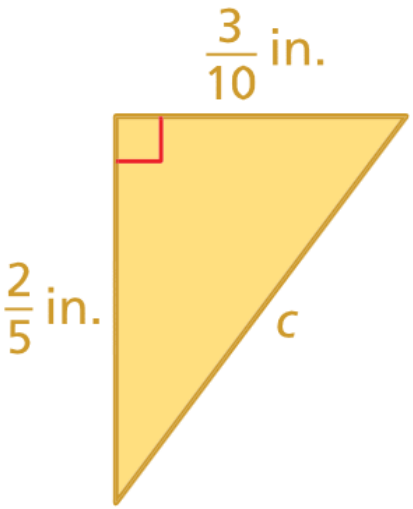
On Your Own

3) Find the length of the hypotenuse of the triangle.



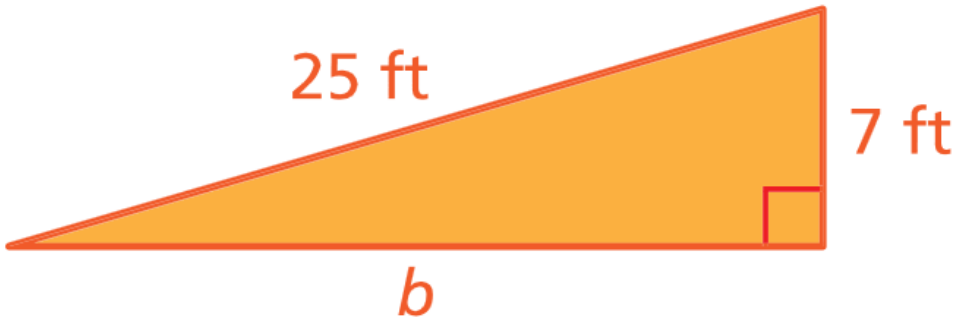
On Your Own

4) Find the length of the hypotenuse of the triangle.



Pythagorean Theorem

6) Find the missing length of the triangle.



The Converse of the Pythagorean Theorem

In a triangle if $a^2 + b^2 = c^2$ **works , then the triangle is a**

_____.

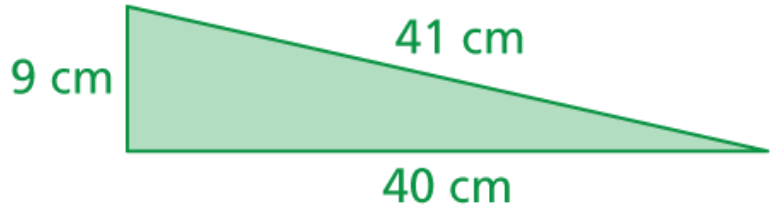
Determine if the triangle with the given side lengths is a right triangle.

1) $11, 18, 21$

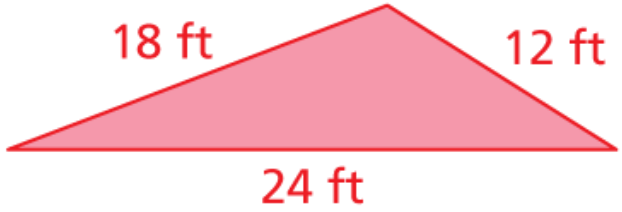
2) $5, 6, \sqrt{11}$

Tell whether each triangle is a right triangle.

a.



b.



Determine if the triangle with the given side lengths is a right triangle.

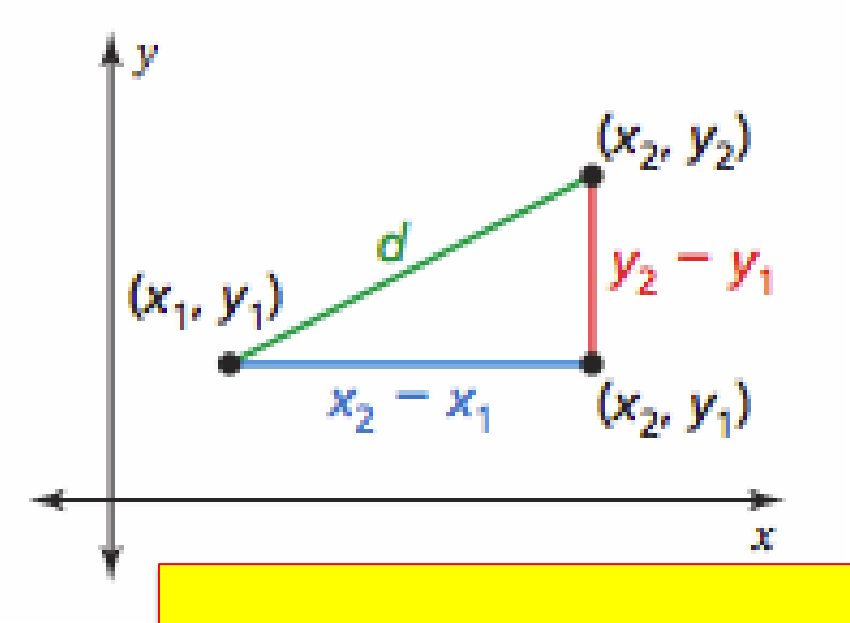
c. Triangle with sides 9, 7, 10

d. Triangle with sides 10, 6, 13

e. Triangle with sides 13, 5, 12

Distance Formula

The distance formula can be used to find the distance between any _____ in a coordinate plane.



The distance d between any two points (x_1, y_1) and (x_2, y_2) is given by the formula:

Finding the Distance Between Two Points

Find the distance between (1, 5) and (-4, -2).

Write the distance formula.

Substitute.

Simplify.

Evaluate powers.

Add.

Finding the Distance Between Two Points

Find the distance between (7, -3) and (9, 6).

Write the distance formula.

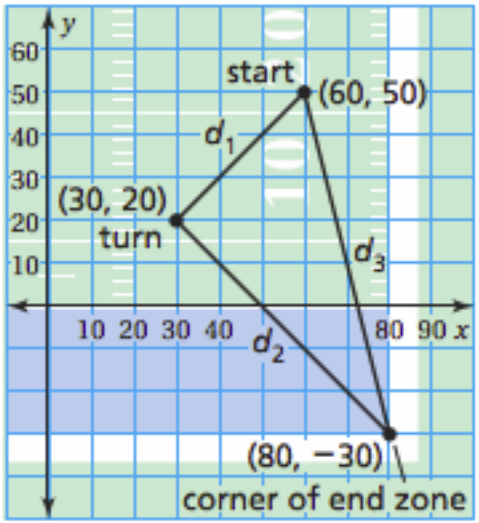
Substitute.

Simplify.

Evaluate powers.

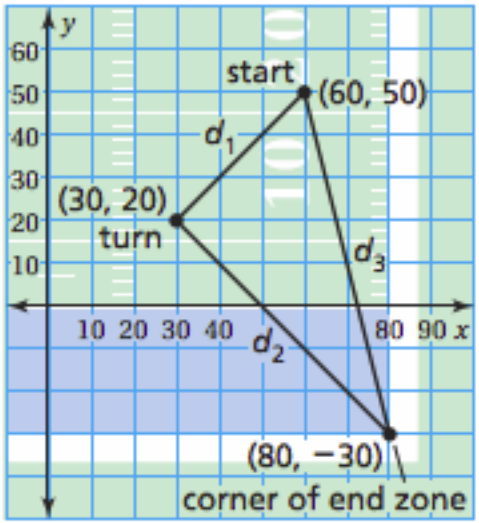
Add.

Real-Life Application



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 runs the play as shown. Did your friend make a 90º turn? Each unit of the grid represents 10 feet.

Real-Life Application



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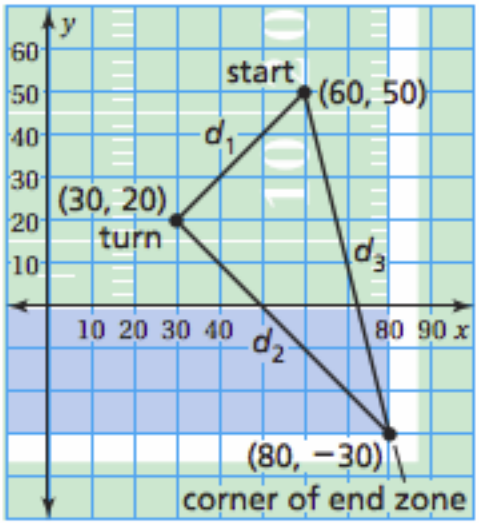

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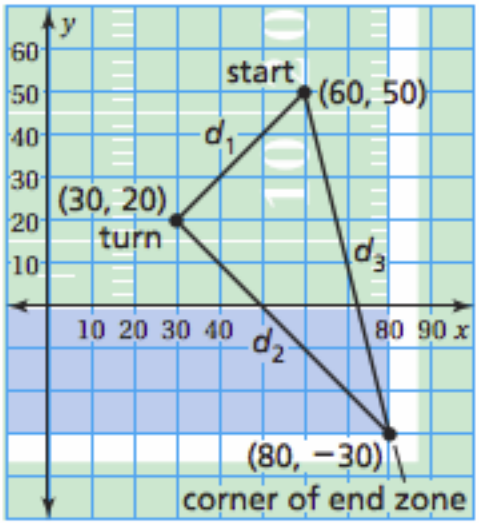

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