



Converse of the Pythagorean Theorem (page 1)

Converse: If a triangle has sides of lengths a , b and c , and $a^2 + b^2 = c^2$, then the triangle is a right triangle with hypotenuse of length c .

The Converse of the Pythagorean Theorem can be used to determine whether a triangle is a right triangle—or not.

Example: Determine if the given sides are sides of a right triangle.

(1) 5ft, 12ft, 13ft

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

$$5^2 + 12^2 = 13^2$$

$$25 + 144 = 169$$

$$169 = 169$$

So the 5ft, 12ft, 13ft triangle
is a right triangle.

(2) 7cm, 9cm, 12cm

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

$$7^2 + 9^2 = 12^2$$

$$49 + 81 = 144$$

$$130 \neq 144$$

So the 7cm, 9cm, 12cm triangle
is not a right triangle.



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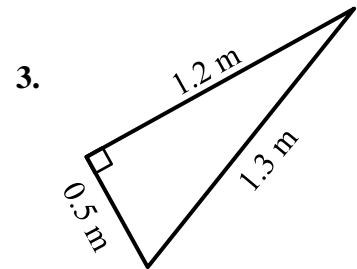
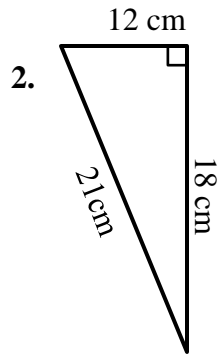
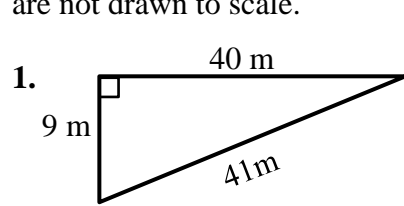
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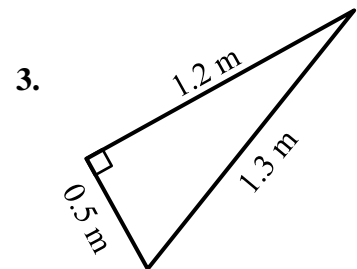
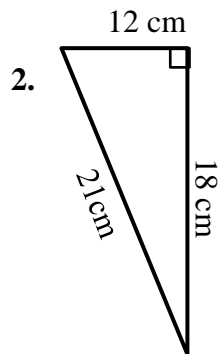
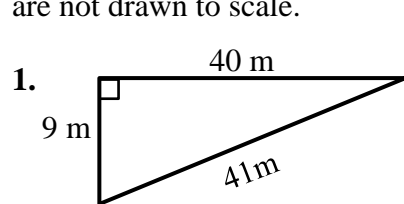
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5. 7 m, 8 m, 9 m

6. 7 ft, 24 ft, 25 ft

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