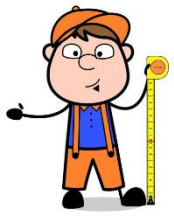
WorksheetCloud

Grade 8 - Mathematics

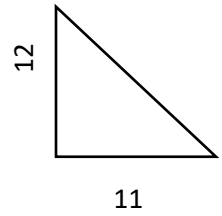
Measurement 1



Memo

A. Using the Theorem of Pythagoras calculate the value of the unknown sides: (round off your answers to two decimal places where necessary)

1.



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

$c^2 = 11^2 + 12^2$

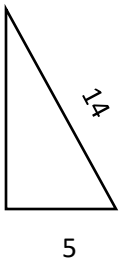
$c^2 = 121 + 144$

$c^2 = 265$

$c = \sqrt{265}$

$c = 16,28$

2.



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

$14^2 = 5^2 + b^2$

$196 = 25 + b^2$

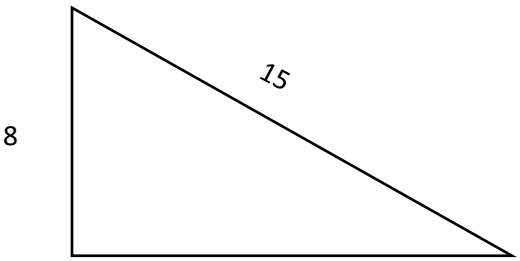
$196 - 25 = b^2$

$171 = b^2$

$\sqrt{171} = b$

$13,08 = b$

3.



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

$15^2 = a^2 + 8^2$

$225 = a^2 + 64$

$225 - 64 = a^2$

$161 = a^2$

$\sqrt{161} = a$

$12,69 = b$

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4. Using the given measurements for a right angle triangle, calculate the value of the missing side:
   a. Hypotenuse = 9; side a = 7
   b. Side a = 10; side b = 6
   c. Side b = 4; hypotenuse = 12

c. $c^2 = a^2 + b^2$	b. $c^2 = a^2 + b^2$	a. $c^2 = a^2 + b^2$
$9^2 = 7^2 + b^2$	$c^2 = 10^2 + 6^2$	$12^2 = a^2 + 4^2$
$81 = 49 + b^2$	$c^2 = 100 + 36$	$144 = a^2 + 16$
$91 - 49 = b^2$	$c^2 = 136$	$144 - 16 = a^2$
$42 = b^2$	$c = \sqrt{136}$	$128 = a^2$
$\sqrt{42} = b$	$c = 11{,}66$	$\sqrt{128} = a$
$6{,}48 = b$		$11{,}31 = a$