AChor/MFM2P

Name:	
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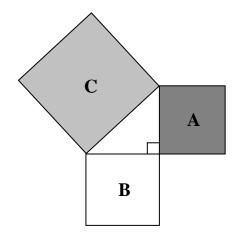
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Worksheet 2-12: Pythagorean Theorem for Right Triangles

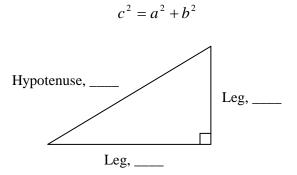
Fill in the Blanks:			
Right Triangle	Right Angle	Hypotenuse	Legs (of a right triangle)
1	is an	angle that measures 9	0°.
2	are th	ne two sides that form	a right angle.
3	is the	e longest side of a rigl	nt triangle (or the side opposite to
4	is a t	riangle containing a 90)° angle.

The Pythagorean Relation:

For any right triangle, the area of a square placed on the longest side (hypotenuse) of the triangle is equal to the sum of the areas of the squares on the other two sides (legs).



If c is the measure of the hypotenuse of a right triangle, then a and b are the measures of the legs, then



Please note:

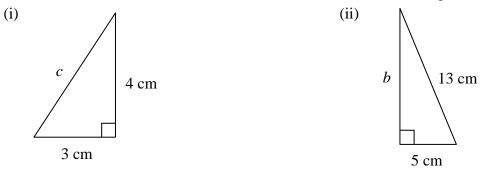
If c is the measure of the hypotenuse of a right triangle, and a and b are the measures of the other two sides (legs), but $c^2 \neq a^2 + b^2$, then the triangle is not a right triangle.

Assigned Work: WS 2-12; Handout "Working with Pythagorean Theorem"

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Name:	
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- **1.** For the following right triangles,
 - (a) identify the hypotenuse.
 - (b) write the Pythagorean theorem.
 - (c) find the measure of the unknown side, accurate to 2 decimal places



2. Determine whether the given side measures could form a right triangle.(a) 12, 16, 20

(b) 2, 3, 4

(c) 2, 8, 8

Answers: 1. (i) (a) c, (b) $c^2 = 3^2 + 4^2$, (c) 5 cm (reject -5), (ii) (a) 13 cm, (b) $13^2 = 5^2 + b^2$, (c) 12 cm (reject -12); 2. (a) Yes, $12^2 + 16^2 = 20^2$, (b) No, $2^2 + 3^2 = 13 \neq 4^2$, (c) No, it is an isosceles triangle. $2^2 + 8^2 = 68 \neq 8^2$.

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	Date:	WS 2-12

3. George Harvey C. I. is putting up a new flagpole. The 4-m pole is supported by a steel wire anchored 2 m from the base of the pole. Find the length of the steel wire, to the nearest tenth of a metre.

4. A 3-m ladder is leaning against a wall. The foot of the ladder is placed 0.8 m from the base of the wall. How high up the wall does the ladder reach? Write your answer to one decimal place.

5. A standard Canadian football field (without the end zones) is approximately 101 m by 59 m. If Mr. Scherer walks diagonally across the field from one corner to the other corner whereas Ms. Chor walks along the two adjoining sides to the other corner, who walks a shorter distance and by how much? Write your answer to the nearest metre.