



Name:.....

Class:.....

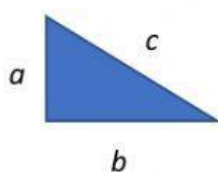
No.

Converse of Pythagoras Theorem

บทสนทนาของทฤษฎีบทพีทาโกรัส

Pythagoras Theorem: If a triangle is a right triangle,

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



Converse of Pythagoras Theorem: If $c^2 = a^2 + b^2$, then
the triangle is a right triangle.

Example 1: Find if the following 3 sides form a right-angled triangle.

$$a = 3 \quad b = 4 \quad c = 5$$

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

$$5^2 = 3^2 + 4^2$$

$$25 = 9 + 16$$

$$25 = 25 \quad \text{true!}$$

Therefore, the triangle is a right-angled triangle.

Example 2: Find if the following 3 sides form a right-angled triangle.

$$a = 5 \quad b = 6 \quad c = 7$$

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

$$7^2 = 5^2 + 6^2$$

$$49 = 25 + 36$$

$$49 \neq 61 \text{ false!}$$

Therefore, the triangle is NOT a right-angled triangle.

Find if the following 3 sides form a right-angled triangle.

1. $a = 7 \quad b = 24 \quad c = 25$

a. right-angled triangle

b. not right-angled triangle

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

$$\boxed{} = \boxed{} + \boxed{}$$

$$\boxed{} = \boxed{}$$

2. $a = 5 \quad b = 7 \quad c = 9$

a. right-angled triangle

b. not right-angled triangle

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

$$\boxed{} = \boxed{} + \boxed{}$$

$$\boxed{} = \boxed{}$$

3. $a = 30$ $b = 40$

a. right-angled triangle

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

$$\square = \square + \square$$

$$\square = \square$$

$c = 50$

b. not right-angled triangle

4. $a = 8$ $b = 15$

a. right-angled triangle

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

$$\square = \square + \square$$

$$\square = \square$$

$c = 17$

b. not right-angled triangle

5. $a = 5.7$ $b = 5.7$

a. right-angled triangle

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

$$\square = \square + \square$$

$$\square = \square$$

$c = 10.7$

b. not right-angled triangle

6. $a = 5$ $b = 12$ $c = 13$

a. right-angled triangle

b. not right-angled triangle

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

$$\boxed{} = \boxed{} + \boxed{}$$

$$\boxed{} = \boxed{}$$



“However difficult life may seem, there is always something you can do and succeed at.”

“ชีวิตจะดูลำบากเพียงใด ย่อมมีเสมอ

สิ่งที่คุณสามารถทำได้และประสบความสำเร็จ”

- Stephen Hawking