Name : _____

Pythagorean Triples

If three positive integers (a, b, and c) that represent the length of each side ... equation ...ple.
$$a^2 + b^2 = c^2$$

...rmula for every odd number.
...n odd number.

$\dfrac{(a^2 - 1)}{2}$ (even number)

...+ 1)   (odd number)

...rmula for every even number.
...n even number.

$\left(\dfrac{a}{2}\right)^2 - 1$ (odd number)

* side b = $\left(\dfrac{a}{2}\right)^2 - 1$ (odd number)

* side c = (b + 2)   (odd number)
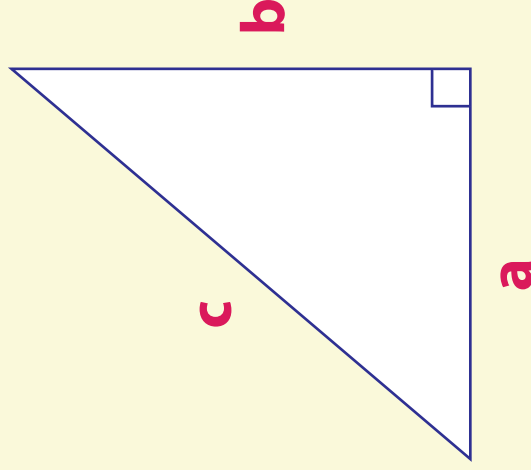
In a Pythagorean triple, two sid... always be represented by odd numbers and one side will be an even number.

Pythagorean Triples

Name : _____

Example with an odd number

(odd number)

$$= \frac{9 - 1}{2} = 4 \text{ (even number)}$$

$$= 4 + 1 = 5 \quad \text{(odd number)}$$

Hence 3, 4, and 5 is a "Pythagorean Triple".
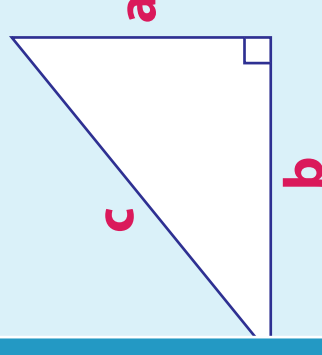
Example with an even number
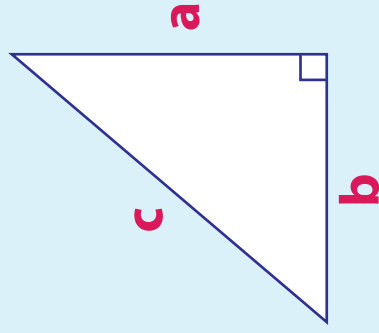
If **a = 4**, (even number)

$$b = \left(\frac{a}{2}\right)^2 - 1 = 3 \text{ (odd number)}$$

$$c = (b + 2) = 3 + 2 = 5 \quad \text{(odd number)}$$

Hence 3, 4, and 5 is a "Pythagorean Triple".