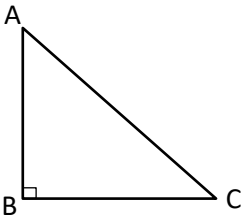
Covid-19 (Sathi Pasala)
July-2nd week
Grade 9
(19) Pythagorean Relation

- Do the activity 01 given in your textbook page number 116.
- Do the activity 01 given in your textbook page number 117.

The Pythagorean relation for a right-angled triangle can be expressed as follows.

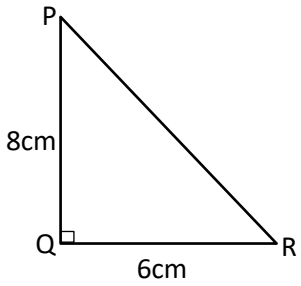
- The area of the square drawn on the hypotenuse of a right-angled triangle is equal to the sum of the areas of the squares drawn on the remaining two sides.

Accordingly,



$AC^2=AB^2+BC^2$

Ex:- Find the length of PR.



According to the Pythagorean relation,

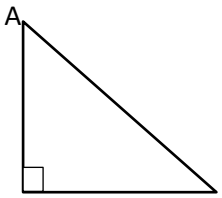
$$PR^2 = PQ^2+QR^2$$
$$= 8^2 + 6^2$$
$$= 64+36$$
$$PR^2 = 100$$
$$\therefore \quad PR = \sqrt{100}$$
$$PR = 10cm$$

Do the exercise 19.1.

According to the facts you learnt in the previous week,

- The area of the square drawn on the hypotenuse of a right-angled triangle is equal to the sum of the areas of the squares drawn on the remaining two sides.

Accordingly,



$AC^2=AB^2+BC^2$

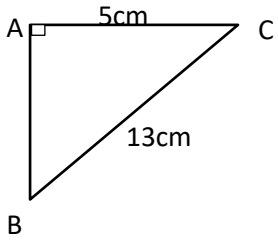
From that,

$AB^2=AC^2-BC^2$

$BC^2= AC^2-AB^2$ Can be taken.

Study the following example.

Ex: - Find the length of AB.



According to the Pythagorean relation, $BC^2 = AB^2+AC^2$

$13^2 = 5^2+AB^2$

$169 = 25+AB^2$

$169-25 = AB^2$

$144 = AB^2$

$\sqrt{144}= AB$

$12cm = AB$

Now complete the exercise 19.2 by studying the examples given in the textbook.