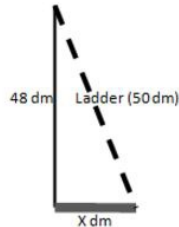## Properties of Triangles Ex 15.5 Q10

Answer :

Let the distance of the lower end of the ladder from the wall be X m.
On using the Pythagoras theorem, we get :
$$X^2 + 48^2 = 50^2$$
$$\Rightarrow X^2 = 50^2 - 48^2 = 2500 - 2304 = 196$$
$$\Rightarrow X = 14 \text{ dm}$$
Hence, the distance of the lower end of the ladder from the wall is 14 dm.

Properties of Triangles Ex 15.5 Q11

Answer :

Let the length of each leg of the given triangle be x units.
Using the Pythagoras theorem, we get :
$$x^2 + x^2 = \left(\text{Hypotenuse}\right)^2$$
$$x^2 + x^2 = 50$$
$$2x^2 = 50$$
$$\Rightarrow x^2 = 25$$
$$\Rightarrow x = 5$$
Hence, we can say that the length of each leg is 5 units.

Properties of Triangles Ex 15.5 Q12

Answer :

We will check for a Pythagorean triplet by checking if the square of the largest side is equal to the sum of the squares of the other two sides.

(i) $37^2 = 1369$
$12^2 + 35^2 = 144 + 1225 = 1369$
$12^2 + 35^2 = 37^2$
Yes, they represent a Pythagorean triplet.

(ii) $25^2 = 625$
$7^2 + 24^2 = 49 + 576 = 625$
$7^2 + 24^2 = 25^2$
Yes, they represent a Pythagorean triplet.

(iii) $45^2 = 2025$
$27^2 + 36^2 = 729 + 1296 = 2025$
$27^2 + 36^2 = 45^2$
Yes, they represent a Pythagorean triplet.

(iv) $39^2 = 1521$
$15^2 + 36^2 = 225 + 1296 = 1521$
$15^2 + 36^2 = 39^2$
Yes, they represent a Pythagorean triplet.

********** END **********