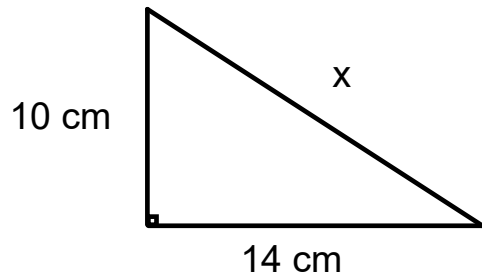


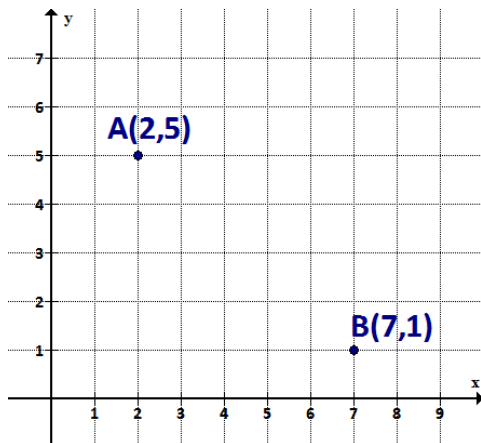
2.4 Distance Between Points

Recall:

The Pythagorean Theorem: the square of the hypotenuse is equal to the sum of the squares of the other two sides in a right triangle.



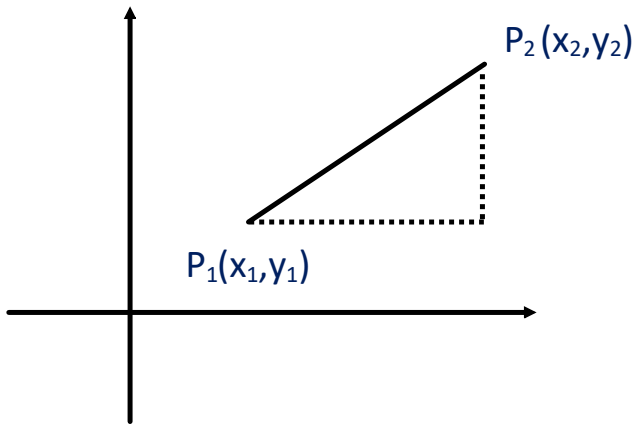
What is the distance between the points A(2,5) and B(7,1)?



We can create a right triangle and use the Pythagorean Theorem.

Add the point C(____,____).

We can derive a general formula using the same method.



Distance Formula:

$$L_{P_1P_2} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

MEMORIZE!

Ex. 1 What is the distance from the origin to the point $(-1,-4)$?

Ex.2 Find the length of the line segments with the following endpoints.

a) A $(-3,0)$ and B $(-3,2)$

b) C $(-4,7)$ and D $(3,1)$

Ex. 3 Given A (2, -3) and B (-1, 6), determine:

a) L_{AB}

b) M_{AB}

c) m_{AB}

Ex. 4 Determine the length of the median from vertex A of a triangle whose vertices are A(-2,6), B(5,-3), and C(-7,7).

Attachments

act1.mov

act3.mov