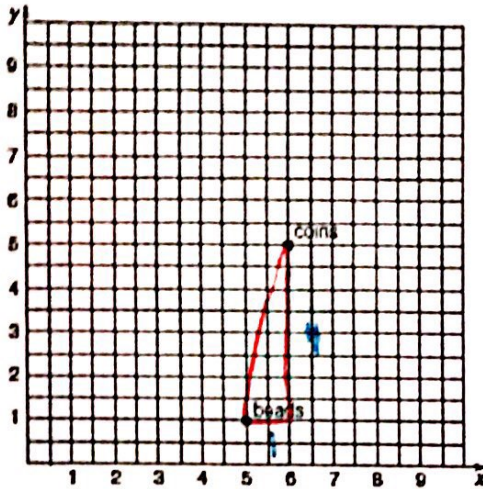


Day 3 - Distance Formula

How would you find the distance between the coins and beads?



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

$$1^2 + 4^2 = c^2$$

$$1 + 16 = c^2$$

$$\sqrt{17} = \sqrt{c^2}$$

$$4.1 = c$$

The **Distance Formula** allows you to find the distance between two points. The subscripts (x_1, y_1) only indicate that there is a first and second point. However, whichever point is first or second is up to you.

Distance Formula: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

1. Find the distance between $(1, -2)$ and $(-3, 6)$.

$$d = \sqrt{(-3 - 1)^2 + (6 - (-2))^2}$$

$$d = \sqrt{(-4)^2 + (8)^2}$$

$$d = \sqrt{16 + 64}$$

$$d = \sqrt{80}$$

$$d \approx 8.9$$

2. Find the distance between $(-2, -3)$ and $(-4, 4)$.

$$d = \sqrt{(-4 - (-2))^2 + (4 - (-3))^2}$$

$$d = \sqrt{(-2)^2 + (7)^2}$$

$$d = \sqrt{4 + 49}$$

$$d = \sqrt{53}$$

$$d \approx 7.3$$

