

**Samples                      Distance between two points SOLUTIONS**

---

1. Let  $(x_1, y_1) = (-6, 7)$  and  $(x_2, y_2) = (-7, 9)$ . Then  $d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$ , so

$$d = \sqrt{(-6 - (-7))^2 + (7 - 9)^2} = \sqrt{1^2 + (-2)^2} = \sqrt{1 + 4} = \sqrt{5} .$$

Hence  $d = \sqrt{5}$

2. Let  $(x_1, y_1) = (6, 10)$  and  $(x_2, y_2) = (5, -9)$ . Then  $d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$ , so

$$d = \sqrt{(6 - 5)^2 + (10 - (-9))^2} = \sqrt{1^2 + 19^2} = \sqrt{1 + 361} = \sqrt{362} .$$

Hence  $d = \sqrt{362}$

3. Let  $(x_1, y_1) = (-10, 5)$  and  $(x_2, y_2) = (-7, -7)$ . Then  $d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$ , so

$$d = \sqrt{(-10 - (-7))^2 + (5 - (-7))^2} = \sqrt{(-3)^2 + 12^2} = \sqrt{9 + 144} = \sqrt{153} .$$

Hence  $d = 3\sqrt{17}$