

$$b) A = (-1, -7), B = (-4, 8)$$

$$|x_2 - x_1|^2 + |y_2 - y_1|^2 = \sqrt{(-3)^2 + (15)^2} = \sqrt{9 + 225} = \sqrt{234}$$

$$d(p_1, p_2) = \sqrt{234} \checkmark$$

$$c) A = (0, 5), B = (-4, 8) \quad d(p_1, p_2) = \sqrt{(-4)^2 + (3)^2} = \sqrt{16 + 9} = \sqrt{25} = 5$$

$$d) (\sqrt{3}, 1), (0, -1) \rightarrow d = \sqrt{(\sqrt{3})^2 + (-2)^2} = \sqrt{3 + 4} = \sqrt{7}$$

$$(x_2 - x_1)^2 + (y_2 - y_1)^2 \quad d = \sqrt{(\sqrt{3})^2 + (-2)^2} = \sqrt{3 + 4} = \sqrt{7}$$

$$= (0 - \sqrt{3})^2 + (-1 - 1)^2 = (\sqrt{3})^2 + (-2)^2 = 3 + 4 = 7$$

$$|\sqrt{3} - 0|^2 = 3 \quad |-1 - 1|^2 = 4$$

$$\sqrt{3 + 4} = \sqrt{7}$$

$$e) A = (0, 5), B = (5, 0) \quad d(p_1, p_2) = \sqrt{(5-0)^2 + (0-5)^2} = \sqrt{25 + 25} = \sqrt{50} = 5\sqrt{2}$$

$$|x_1 - x_2|^2 + |y_1 - y_2|^2 = (5)^2 + (-5)^2 = 25 + 25 = 50$$

$$(x_2 - x_1)^2 + (y_2 - y_1)^2 = 25 + 25 = 50$$

$$\sqrt{25 + 25} = \sqrt{50} = 5\sqrt{2}$$

$$(0 + 5)^2 + (-5 - 0)^2 = 25 + 25 = 50$$

$$= 5\sqrt{2}$$

$$(0, 5)$$

$$f) (\sqrt{3}, 1); (0, -1)$$

$$(\sqrt{3})^2 + (-2)^2 = 3 + 4 = 7$$

$$= \sqrt{7}$$

$$(\sqrt{3})^2 + (-2)^2 = 3 + 4 = 7$$

$$g) A = (3, 4), B = (0, 0)$$

$$(-3)^2 + (-4)^2 = 9 + 16 = 25$$

$$h) (0, 5), (5, 0) \rightarrow (-5)^2 + (-5)^2 = 25 + 25 = 50$$

$$\sqrt{25 + 25} = 5\sqrt{2}$$

$$i) (\sqrt{3}, 1); (0, -1) \rightarrow (-\sqrt{3})^2 + (-2)^2 = 3 + 4 = 7$$

$$j) (3, 4); (0, 0) \rightarrow (-3)^2 + (-4)^2 = 9 + 16 = 25$$