

HW

COORDINATE GEOMETRY

ASSIGNMENT-1

1. (b) 3

2. (b) 5

3. (d) -1

4. We know distance between two points
 $A(x_1, y_1)$ and $B(x_2, y_2)$

Here, $A(a+b, a-b)$ and $B(a-b, -a-b)$

$$AB = \sqrt{\{(a-b)-(a+b)\}^2 + \{(a-b)-(-a-b)\}^2}$$

$$= \sqrt{(a-b-a-b)^2 + (-a-b-a-b)^2}$$

$$= \sqrt{(-2b)^2 + (-2a)^2}$$

$$= \sqrt{4b^2 + 4a^2}$$

$$= \sqrt{4(a^2 + b^2)} = 2\sqrt{a^2 + b^2}$$

Here, the answer is $2\sqrt{a^2 + b^2}$.

5. (d) 7 or -1.

6. (b) collinear

7. (c) $2a = b$

8. (a) 0

9. $\sqrt{x_1^2 + y_1^2}$

$$\text{Then } \overline{OP} = \sqrt{(-3)^2 + (4)^2}$$

$$= \sqrt{9+16} = \sqrt{25} = 5.$$

(c) 5 \rightarrow the correct option.

$$10. \text{ Area} = \frac{1}{2} |x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)|$$

$$= \frac{1}{2} |1(3+4) - 2(-4-2) - 3(2-3)|$$

$$= \frac{1}{2} |7 + 12 + 3|$$

$$= \frac{1}{2} \times 22 = 11 \text{ sq. units.}$$

Hence, the area of triangle is 11 sq. unit

