

## Review Exercise 9

### Q.1 Choose the Correct answer

- (i) Distance between point (0 , 0) and (1, 1) is  
 (a) 0 (b) 1  
 (c) 2 (d)  $\sqrt{2}$
- (ii) Distance between the point (1 , 0) and (0 ,1) is  
 (a) 0 (b) 1  
 (c)  $\sqrt{2}$  (d) 2
- (iii) Midpoint of the (2, 2) and (0, 0) is  
 (a) (1, 1) (b) (1, 0)  
 (c) (0, 1) (d) (-1, -1)
- (iv) Midpoint of the points (2, -2) and (-2 , 2) is  
 (a) (2, 2) (b) (-2, -2)  
 (c) (0 , 0) (d) (1, 1)
- (v) A triangle having all sides equal is called  
 (a) Isosceles (b) Scalene  
 (c) Equilateral (d) None of these
- (vi) A triangle having all sides different is called  
 (a) Isosceles (b) Scalene  
 (c) Equilateral (d) None of these

### ANSWER KEYS

i	ii	iii	iv	v	vi
d	c	a	c	c	b

### Q.2 Answer the following which is true and which is false

- (i) A line has two end points (False)
- (ii) A line segment has one end point (False)
- (iii) A triangle is formed by the three collinear points (False)
- (iv) Each side of triangle has two collinear vertices. (True)
- (v) The end points of each side of a rectangle are Collinear (True)
- (vi) All the points that lie on the x-axis are Collinear (True)
- (vii) Origin is the only point Collinear with the points of both axis separately (True)

UNREGISTERED  
version now.

**Q.3 Find the distance between the following pairs of points**

**Solution:**

(i)  $(6, 3), (3, -3)$

$A(6, 3), B(3, -3)$

$d = \sqrt{|x_2 - x_1|^2 + |y_2 - y_1|^2}$

$|AB| = \sqrt{|3 - 6|^2 + |-3 - 3|^2}$

$|AB| = \sqrt{(-3)^2 + (-6)^2}$

$|AB| = \sqrt{9 + 36}$

$|AB| = \sqrt{45}$

$|AB| = \sqrt{9 \times 5}$

$|AB| = 3\sqrt{5}$

(ii)  $(7, 5), (1, -1)$

$A(7, 5), B(1, -1)$

$d = \sqrt{|x_2 - x_1|^2 + |y_2 - y_1|^2}$

$|AB| = \sqrt{|7 - 1|^2 + |5 - (-1)|^2}$

$|AB| = \sqrt{(6)^2 + (5 + 1)^2}$

$|AB| = \sqrt{36 + (6)^2} = \sqrt{36 + 36}$

$|AB| = \sqrt{72} = \sqrt{36 \times 2}$

$|AB| = 6\sqrt{2}$

(iii)  $(0, 0), (-4, -3)$

$A(0, 0), B(-4, -3)$

$d = \sqrt{|x_2 - x_1|^2 + |y_2 - y_1|^2}$

$|AB| = \sqrt{|0 - 4|^2 + |0 - (-3)|^2}$

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

$|AB| = \sqrt{16 + 9}$

$|AB| = \sqrt{25}$

$|AB| = 5$

**Q.4 Find the midpoint between following pairs of points**

**Solution:**

(i)  $(6, 6), (4, -2)$

$M(x, y) = M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

$M(x, y) = M\left(\frac{6 + 4}{2}, \frac{6 - 2}{2}\right)$

$M(x, y) = M\left(\frac{10}{2}, \frac{4}{2}\right)$

$M(x, y) = M(5, 2)$

(ii)  $(-5, -7), (-7, -5)$

$M(x, y) = M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

$M(x, y) = M\left(\frac{-5 - 7}{2}, \frac{-7 - 5}{2}\right)$

$M(x, y) = M\left(\frac{-12}{2}, \frac{-12}{2}\right)$

$M(x, y) = M(-6, -6)$

(iii)  $(8, 0), (0, -12)$

$M(x, y) = M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

$M(x, y) = M\left(\frac{8 + 0}{2}, \frac{0 - 12}{2}\right)$

$M(x, y) = M\left(\frac{8}{2}, \frac{-12}{2}\right)$

$M(x, y) = M(4, -6)$

**Q.5 Define the following**

**Solution:**

(i) **Co-ordinate Geometry:-**

Co-ordinate geometry is the study of geometrical shapes in the Cartesian plane (or coordinate plane)

UNREGISTERED  
version now.

(ii) **Collinear:-**

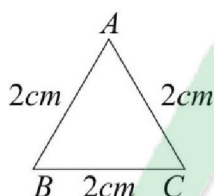
Two or more than two points which lie on the same straight line are called collinear points with respect to that line.

(iii) **Non- Collinear:-**

The points which do not lie on the same straight line are called non-collinear.

(iv) **Equilateral Triangle:-**

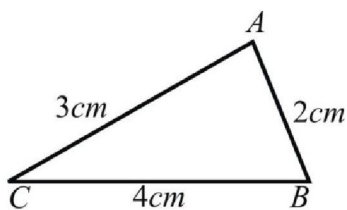
If the length of all three sides of a triangle are same then the triangle is called an equilateral triangle.



$\triangle ABC$  is an equilateral triangle.

(v) **Scalene Triangle:-**

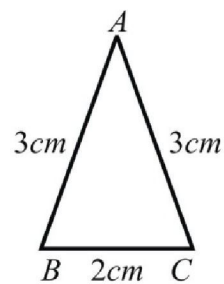
A triangle is called a scalene triangle if measure of all sides are different.



$\triangle ABC$  is a Scalene triangle.

(vi) **Isosceles Triangle:-**

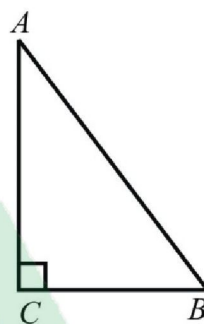
An isosceles triangle is a triangle which has two of its sides with equal length while the third side has different length.



$\triangle ABC$  is an isosceles triangle

(vii) **Right Triangle:-**

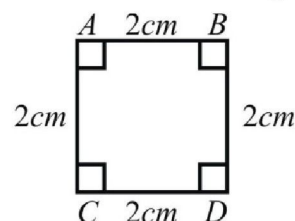
A triangle in which one of the angles has measure equal to  $90^\circ$  is called a right triangle.



$\triangle ABC$  is a right angled triangle.

(viii) **Square:-**

A Square is closed figure formed by four non- collinear points such that lengths of all sides are equal and measure of each angles is  $90^\circ$ .



$ABCD$  is a square.

**Last Updated: September 2020**

Report any mistake at [freeilm786@gmail.com](mailto:freeilm786@gmail.com)