

**QUESTION 1:**

Find the distance between the points (5,6) and (2,4) using the distance formula.

Answer:  $\sqrt{13}$

**QUESTION 2:**

Find radius of the circle if the point (-2,-4) lies on the circle with center(1,3).

Answer:  $\sqrt{58}$

**QUESTION 3:**

Find the coordinates of center and radius of the circle described by the following equation.

$$4x^2 + 4y^2 - 16x - 24y + 51 = 0$$

Answer: Center: (2,3), Radius:  $\frac{1}{2}$

**QUESTION 4:**

Find the coordinates of center and radius of the circle described by the following equation.

$$2x^2 + 2y^2 + 6x - 8y + 12 = 0$$

Answer: Center:  $\left(-\frac{3}{2}, 2\right)$ , Radius:  $\frac{1}{2}$

**QUESTION 5:**

Find the coordinates of center and radius of the circle described by the following equation.

$$x^2 + y^2 - 4x - 6y + 8 = 0$$

Answer: Center: (2,3) Radius:  $\sqrt{5}$

**QUESTION 6:**

Find the coordinates of the center and radius of the circle whose equation is

$$3x^2 + 6x + 3y^2 + 18y - 6 = 0.$$

Answer: Centre of the circle is (-1,-3) and radius is  $\sqrt{12}$ .

**QUESTION 7:**

Find the coordinates of the center and radius of the circle described by the following equation

$$x^2 + y^2 - 6x - 8y = 0.$$

**Answer:** Circle with the center at  $(3, 4)$  and with a radius equal to  $\sqrt{25}$ .

**QUESTION 8:**

Find the equation of circle with center  $(3, -2)$  and radius 4.

**Answer:**  $x^2 + y^2 - 6x + 4y = 3$

**QUESTION 9:**

Find the distance between  $A(2, 4)$  and  $B(8, 6)$  using the distance formula.

**Answer:**  $\sqrt{40}$  or  $2\sqrt{10}$

**QUESTION 10:**

If the point  $(-1, -3)$  lies on the circle with center  $(3, -2)$ , then find the radius of the circle.

**Answer:**  $\sqrt{17}$  or  $\approx 4.123$