

### **Quiz 1**

- [1] State the definition of the circle.
- [2] Find the angle between the lines:  $2x^2 + 5xy - 3y^2 = 0$  and separate them.
- [3] Write the equation of circle in which the points  $(2, -1)$ ,  $(-1, 1)$  are ends of diameter.
- [4] Show that the circles  $x^2 + y^2 - 2x + 3y + 2 = 0$ ,  $x^2 + y^2 + 3x + 2y - 2 = 0$  are orthogonal
- [5] Find the radical axis of the circles and find the points of intersection:
- $$x^2 + y^2 - 2x - 4y + 4 = 0, \quad x^2 + y^2 - 4x - 2y + 2 = 0$$

### **Quiz 1**

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- [3] Show that the circles  $x^2 + y^2 - 2x + 3y + 2 = 0$ ,  $x^2 + y^2 + 3x + 2y - 2 = 0$  are orthogonal.
- [4] Find the radical axis of the circles and find the points of intersection:
- $$x^2 + y^2 - 2x - 4y + 4 = 0, \quad x^2 + y^2 - 4x - 2y + 2 = 0$$
- [5] Write the equation of circle in which the points  $(2, -1)$ ,  $(-1, 1)$  are ends of diameter.

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- $$x^2 + y^2 - 2x - 4y + 4 = 0, \quad x^2 + y^2 - 4x - 2y + 2 = 0$$
- [5] Write the equation of circle in which the points  $(2, -1)$ ,  $(-1, 1)$  are ends of diameter.
- [4] Find the angle between the lines:  $2x^2 + 5xy - 3y^2 = 0$  and separate them.

## **Quiz 2**

- [1] State the definition of the circle.
- [2] Find vertex, focus and sketch the parabola  $x^2 - 4x + 8y + 20 = 0$ .
- [3] Write the equation of parabola where the focus is  $F(-2, 0)$ , directrix is  $y + 4 = 0$ .
- [4] Find the center, vertices and sketch of the ellipse  $x^2 + 4y^2 - 4x + 8y + 4 = 0$ .

## **Quiz 2**

- [1] State the definition of the parabola.
- [2] Write the equation of parabola where the focus is  $F(-2, 0)$ , directrix is  $y + 4 = 0$ .
- [3] Find vertex, focus and sketch the parabola  $x^2 - 4x + 8y + 20 = 0$ .
- [4] Find the center, vertices and sketch of the ellipse  $x^2 + 4y^2 - 4x + 8y + 4 = 0$ .

## **Quiz 2**

- [1] State the definition of the ellipse.
- [2] Write the equation of parabola where the focus is  $F(-2, 0)$ , directrix is  $y + 4 = 0$ .
- [3] Find vertex, focus and sketch the parabola  $x^2 - 4x + 8y + 20 = 0$ .
- [4] Find the center, vertices and sketch of the ellipse  $x^2 + 4y^2 - 4x + 8y + 4 = 0$ .

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### **Quiz 3-A**

[1] State the definition of the line.

[2] Determine center, vertices and sketch the hyperbola  $x^2 - 4y^2 - 6x - 24y - 31 = 0$

[3] Determine the type of the curve  $x^2 + 2xy + y^2 - 2x + y = 0$ .

### **Quiz 3-A**

[1] State the definition of the line.

[2] Determine center, vertices and sketch the hyperbola  $x^2 - 4y^2 - 6x - 24y - 31 = 0$

[3] Determine the type of the curve  $x^2 + 2xy + y^2 - 2x + y = 0$ .

### **Quiz 3-B**

[1] State the definition of the parabola.

[2] Determine center, vertices and sketch the hyperbola  $x^2 - 4y^2 + 4x + 24y - 36 = 0$

[3] Determine the type of the curve  $2x^2 - xy - y^2 + 4x + y + 2 = 0$ .

### **Quiz 3-C**

[1] State the definition of the ellipse.

[2] Determine center, vertices and sketch the hyperbola  $4x^2 - y^2 + 16x - 4y + 16 = 0$

[3] Determine the type of the curve  $x^2 + 3xy + y^2 + x - 1 = 0$

### **Quiz 3-D**

[1] State the definition of the hyperbola.

[2] Determine center, vertices and sketch the hyperbola  $3x^2 - y^2 + 18x - 4y + 24 = 0$

[3] Determine the type of the curve  $x^2 + 2xy + 3y^2 + y + 3 = 0$

### **Quiz 3-D**

[1] State the definition of the hyperbola.

[2] Determine center, vertices and sketch the hyperbola  $3x^2 - y^2 + 18x - 4y + 24 = 0$

[3] Determine the type of the curve  $x^2 + 2xy + 3y^2 + y + 3 = 0$