

Chapter 10 Review

ALL PROBLEMS MUST BE DONE ON SEPARATE PAPER OTHERWISE; THE REVIEW WILL NOT BE GRADED. SHOW ALL WORK FOR CREDIT. REVIEW IS DUE ON TEST DAY.

Find the center (h, k) and radius r of the circle with the given equation.

1) $(x + 10)^2 + (y - 10)^2 = 100$

2) $x^2 + (y + 8)^2 = 81$

Write the standard form of the equation of the circle with radius r and center (h, k).

3) $r = 8$; $(h, k) = (5, 9)$

Graph the circle with radius r and center (h, k).

4) $r = 2$; $(h, k) = (-5, -5)$

Graph the equation.

5) $(x + 1)^2 + (y - 4)^2 = 4$

Find the center (h, k) and radius r of the circle. Graph the circle.

6) $x^2 + y^2 - 4x - 12y + 31 = 0$

Find the equation of the parabola described.

7) Focus at (3, 0); vertex at (0, 0)

8) Focus at (17, 0); directrix the line $x = -17$

9) Vertex at (7, -5); focus at (7, -4)

Find the vertex, focus, and directrix of the parabola with the given equation.

10) $(x + 4)^2 = 8(y - 2)$

Find the vertex, focus, and directrix of the parabola. Graph the equation.

11) $(y + 1)^2 = -8(x - 3)$

Find the foci and vertices of the ellipse.

12) $\frac{x^2}{81} + \frac{y^2}{9} = 1$

13) $64x^2 + 81y^2 = 5184$

Find an equation for the ellipse.

14) Center at (0, 0); focus at (5, 0); vertex at (6, 0)

Graph the ellipse and locate the foci.

15) $\frac{x^2}{9} + \frac{y^2}{4} = 1$

16) $\frac{x^2}{4} + \frac{y^2}{16} = 1$

Find the center, foci, and vertices of the ellipse.

17) $\frac{(x+1)^2}{36} + \frac{(y-1)^2}{16} = 1$

18) $64x^2 + y^2 - 1152x + 5120 = 0$

Graph the equation.

19) $\frac{(x-2)^2}{9} + \frac{(y+2)^2}{16} = 1$

20) $9(x - 1)^2 + 16(y + 1)^2 = 144$

Find an equation for the hyperbola described.

21) Vertices at $(\pm 3, 0)$; foci at $(\pm 7, 0)$

Find an equation for the hyperbola described. Graph the equation.

22) Center at (0, 0); focus at $(\sqrt{65}, 0)$; vertex at (7, 0)

23) Center at (0, 0); vertex at (0, 5); focus at $(0, \sqrt{61})$

Find an equation for the hyperbola described.

24) Vertices at $(\pm 2, 0)$; foci at $(\pm 4, 0)$

25) center at (5, 8); focus at (-1, 8); vertex at (4, 8)

Find the center, transverse axis, vertices, foci, and asymptotes of the hyperbola.

26) $x^2 - 16y^2 - 4x + 32y - 28 = 0$

Graph the hyperbola.

27) $(x + 2)^2 - 9(y + 2)^2 = 9$

Graph the curve whose parametric equations are given.

28) $x = 2t - 1, y = t^2 + 7; -4 \leq t \leq 4$

29) $x = t^3 + 1, y = t^3 - 10; -2 \leq t \leq 2$

Find a rectangular equation for the plane curve defined by the parametric equations.

30) $x = 2t, y = t + 5; -2 \leq t \leq 3$

31) $x = 2t - 1, y = t^2 + 4; -4 \leq t \leq 4$