

Chapter 10 Review

ALL PROBLEMS MUST BEWORKED 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)  $x = 2t - 1, y = t^2 + 4; -4 \leq t \leq 4$

32)  $x = t + 4, y = 3t + 2$