Conic Sections
(Circles, Ellipses, Hyperbolas)

Graph the following circles.

1. $x^2 + y^2 = 1$

2. $x^2 + y^2 = 4$

3. $x^2 + y^2 = 25$

4. $x^2 + y^2 = 36$

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

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

7. $(x+2)^2 + y^2 = 9$

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

9. $x^2 + (y+1)^2 = 1$

10. $x^2 + (y+2)^2 = 4$

11. $x^2 + (y-2)^2 = 16$

12. $x^2 + (y-1)^2 = 9$

13. $(x-2)^2 + (y+1)^2 = 9$

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

15. $(x+3)^2 + (y-1)^2 = 25$

16. $(x-3)^2 + (y+1)^2 = 36$

17 $x^2 + y^2 + 10y - 75 = 0$

18. $x^2 + y^2 - 8y + 15 = 0$

19. $x^2 + y^2 - 4x + 5 = 0$

20. $x^2 + y^2 - 4x + 5 = 0$

21 $x^2 + y^2 + 6x - 4y - 15 = 0$

22. $x^2 + y^2 + 6x + 4y + 12 = 0$

23. $x^2 + y^2 - 6x + 10y - 40 = 0$

24. $x^2 + y^2 - 8x + 2y + 13 = 0$

Graph the following ellipses.

25. $\frac{x^2}{9}+\frac{y^2}{4}=1$

26. $\frac{x^2}{16}+\frac{y^2}{25}=1$

27. $\frac{x^2}{16}+\frac{y^2}{1}=1$

28. $\frac{x^2}{9}+\frac{y^2}{1}=1$

29. $\frac{x^2}{1}+\frac{y^2}{9}=1$

30. $\frac{x^2}{1}+\frac{y^2}{4}=1$

31. $9x^2+4y^2=36$

32. $x^2+9y^2=9$

33. $\frac{(x-1)^2}{25}+\frac{(y+2)^2}{4}=1$

34. $\frac{(x+4)^2}{16}+\frac{(y-3)^2}{4}=1$

35. $12(x+1)^2+3(y+4)^2=48$

36. $12(x+1)^2+3(y+4)^2=48$

Graph the following hyperbolas.

37. $\frac{x^2}{25}-\frac{y^2}{4}=1$

38. $\frac{x^2}{16}-\frac{y^2}{4}=1$

39. $\frac{y^2}{9}-\frac{x^2}{16}=1$

40. $\frac{y^2}{25}-\frac{x^2}{9}=1$

41. $\frac{x^2}{25}-\frac{y^2}{25}=1$

42. $\frac{x^2}{4}-\frac{y^2}{4}=1$

43. $x^2-y^2=25$

44. $x^2-y^2=16$

45. $y^2 - x^2 = 4$

46. $y^2 - x^2 = 9$

47. $4x^2 - 9y^2 = 72$

48. $25x^2 - 4y^2 = 100$

49. $\frac{(x-1)^2}{25} - \frac{(y+2)^2}{9} = 1$

50. $\frac{(x+1)^2}{16} - \frac{(y-2)^2}{4} = 1$

51. $\frac{(y+1)^2}{16} - \frac{(x-2)^2}{4} = 1$

52. $\frac{(y-1)^2}{49} - \frac{(x+2)^2}{25} = 1$