

Ch 2.2: HW

11. $y = x^4 - \sqrt{x}$

$(0,0)$ $0 = 0^4 - \sqrt{0}$ ✓
 $\Rightarrow$ on the graph

$(-1,0)$ $0 = (-1)^4 - \sqrt{-1}$ ✗
 $\Rightarrow$ not on the graph

$\Rightarrow$ not on the graph

14. $y^3 = x+1$

$(1,2)$ $2^3 = 1+1$ ✓
 $8 \neq 1+1$ ✗
 $\Rightarrow$ not on the graph

$(-1,0)$ $0^3 = -1+1$ ✓
 $\Rightarrow$ on the graph

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

$(0,2)$ ✓
 $0^2 + 2^2 = 4$ $0+4=4$ ✓
 $\Rightarrow$ on the graph

$(\sqrt{2}, \sqrt{2})$ ✓
 $(\sqrt{2})^2 + (\sqrt{2})^2 = 4$ ✓
 $\Rightarrow$ on the graph

25. $2x + 3y = 6$

$2x + 3(0) = 6$ $2x = 6$ $x = 3$
 $2(0) + 3y = 6$ $3y = 6$ $y = 2$

$(3,0), (0,2)$

39. a) x-intercept $(\frac{1}{2}, 0)$ y-intercept $(0, \frac{1}{3})$

b) symmetric with the x-axis
 $(x,y) \Rightarrow (x,-y)$

40. a) x-intercept $(0,0)$ y-intercept $(0,1)$

b) symmetric with the y-axis
 $(x,y) \Rightarrow (-x,y)$

41. a) x-intercept $(1,0)$ y-intercept $(0,1)$

symmetric with origin
 $(x,y) \Rightarrow (-x,-y)$

17. $y = x+2$

$2 = x+2$

$2 = x+2(0)$

$\frac{2}{2} = \frac{1}{2}$ $y = 2$

$(2,0), (0,2)$

21. $y = x^2 - 1$

$-1 = x^2 - y$ $(-1,0), (0,-1)$

$-1 = x(1) - y(0)$ $-1 = x(0) - y(1)$

$\frac{-1}{1} = \frac{-1}{1}$ $x = -1$ $\frac{-1}{1} = \frac{-1}{1}$ $y = 1$

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

$4 = -x(0)^2 + y(0)$ $4 = -x(0)^2 + y(1)$

$4 = 4$ $\frac{4}{1} = \frac{4}{1}$ $y = 4$
 $(4,0), (0,4)$

42. a) x-intercept $(3,0)$ y-intercept $(0,-3)$

b) symmetric with the origin
 $(3,0) \Rightarrow (-3,-3)$

43. a) x-intercept $(0,0)$ y-intercept $(0,0)$

b) symmetric with the y-axis
 $(0,0)$

44. a) x-intercept $(2,0)$ y-intercept $(0,-2)$

b) symmetric with the origin
 $(-2,-2)$

45. a) x-intercept $(2,0)$ y-intercept $(0,0)$

b) symmetric with the origin
 $(-2,0)$

46. a) x-intercept $(4,-4)$ y-intercept $(0,0)$

b) symmetric with origin
 $(4,0)$

55. $y^2 = x + 4$ $x=0$ $y^2 = 0+4 \Rightarrow y^2 = 4 \Rightarrow y = \pm 2$
 $y=0$ $x=4$ $(\pm 2)^2 = x+4$
 $x=0$
 y -intercept $= (0, 2)$
 y -intercept $= (0, -2)$
 x -intercept $= (4, 0)$

symmetric with x -axis

59. $x^2 + y - 9 = 0$ $x=0$ $0+y-9=0$
 $y=9$
 $y=0$ $x^2+0-9=0$ $\sqrt{9}$
 $x=3$
 x -intercept $(3, 0)$
 x -intercept $(-3, 0)$
 y -intercept $(0, 9)$

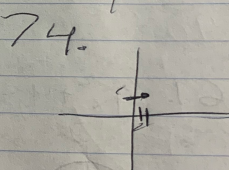
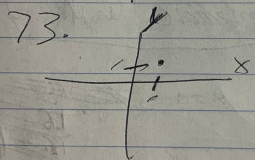
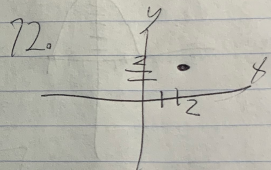
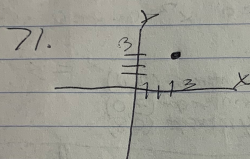
symmetric with y -axis

61. $9x^2 + 4y^2 = 36$ $x=0$ $4y^2 = 36$
 $y^2 = 9$
 $y = \pm 3$
 $(0, 3)$
 $(0, -3)$
 $x=3$
 $9x^2 + 4y^2 = 36$
 $9(3)^2 + 4y^2 = 36$
 $81 + 4y^2 = 36$
 $4y^2 = -45$
 $y^2 = -11.25$
 $y = \pm \sqrt{-11.25}$
 $y = \pm 3i$
 x -intercept $(4, -4)$
 y -intercept $(3, 3)$

symmetric with origin

67. $y = \frac{3x}{x^2 + 9}$ $x=0$ $y = \frac{(0)x}{(0)^2 + 9}$
 $y = 0$
 $0 = \frac{3x}{x^2 + 9}$
 $x=3$

x -intercept $(3, 0)$
 y -intercept $(0, 0)$
 y -intercept $(0, 9)$
~~symmetric with~~
 ~~x -axis~~



75. $y = 4x + 1$
 $b = y$
 $y = 3$

