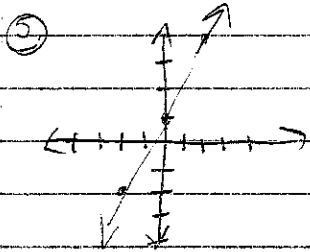


P.1

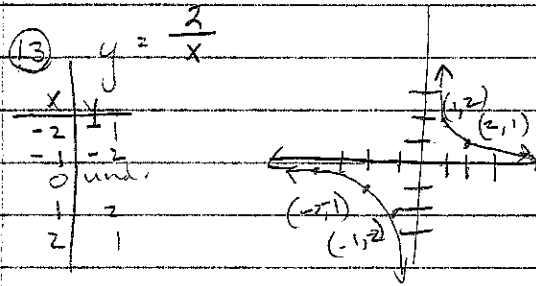
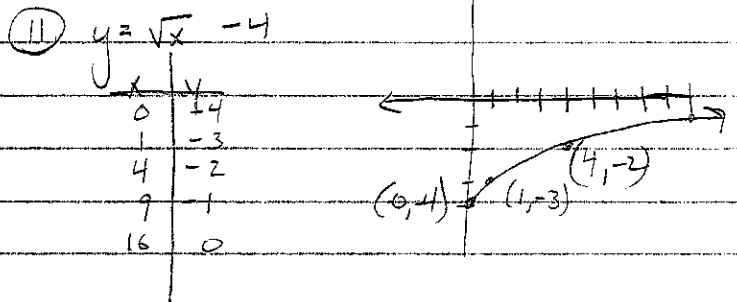
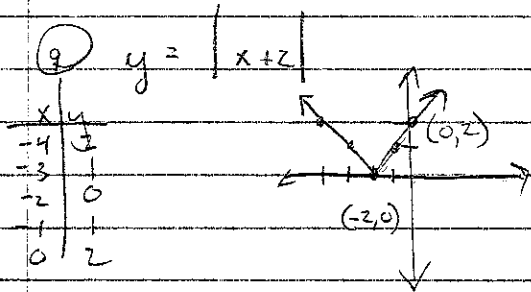
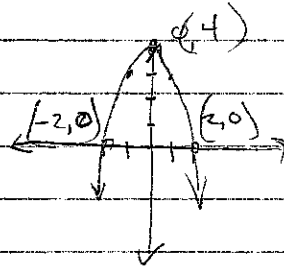
p.8, # 1-5, 7-13 odds, 16, 19-29 odds, 30, 45, 51, 61, 63, 65, 75, 81-84

- ① b (linear)
- ② d (circle)
- ③ a (quadratic)
- ④ c (cubic)



⑦ $y = 4 - x^2$

x	y
0	4
1	3
2	0
-1	3
-2	0



⑬ viewing window: y-intervals of 5
x-intervals of 5

$-30 \leq x \leq 30$ X-Min: -30
 $-10 \leq y \leq 50$ X-Max: 30
x-scl: 5
Y-min: -10
Y-max: 50
Y-scale: 5

⑱ $y = x^2 + x - 2$

y-int: $(0, -2)$

x-int: $0 = x^2 + x - 2$
 $0 = (x + 2)(x - 1)$
 $x = -2 \quad x = 1$
 $(-2, 0) \quad (1, 0)$

⑳ $y = x^2 \sqrt{25 - x^2}$

y-int: $(0, 0)$

x-int: $0 = x^2 \sqrt{25 - x^2}$
 $x^2 = 0 \Rightarrow \sqrt{25 - x^2} = 0$
 $x = 0 \Rightarrow 25 - x^2 = 0$
 $+x^2 + x^2$
 $25 = x^2$

try on calc

x-int: $x = 5 \Rightarrow 5$
 $(5, 0) \quad (-5, 0)$

Window: $x_{min} = -6$
 $x_{max} = 6$
 $y_{min} = 0$
 $y_{max} = 50$

p. 8 (2)

23. $y = 3(2 - \sqrt{x})$

y-int: $y = \frac{3(2 - \sqrt{0})}{0}$

$y = \frac{3(2)}{0}$ undefined. No y-int.

x-int: $0 = \frac{3(2 - \sqrt{x})}{x}$

$2 - \sqrt{x} = 0$

$2 = \sqrt{x}$

$4 = x$ (4, 0)

25. $x^2y - x^2 + 4y = 0$

y-int: $0^2y - 0^2 + 4y = 0$

$4y = 0$

$y = 0$ (0, 0)

x-int: $x^2 \cdot 0 - x^2 + 4(0) = 0$

$-x^2 = 0$

$x = 0$

(0, 0) \notin x and y int.

27. $y = x^2 - 2$ prove test for symmetry

$y = (-x)^2 - 2$ should be y-axis

same $y = x^2 - 2$

29. $y^2 = x^3 - 4x$

try y-axis: $y^2 = (-x)^3 - 4(-x)$

$y^2 = -x^3 + 4x$ Nope

try x-axis: $(-y)^2 = x^3 - 4x$

(yes) $y^2 = x^3 - 4x$

30. $y = x^3 + x$

try origin: $(-y) = (-x)^3 + (-x)$

$-y = -x^3 - x$

equivalent

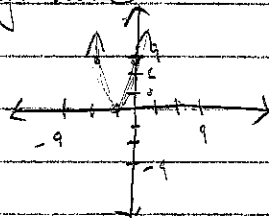
\Rightarrow origin symmetry

Sketch graphs:

45. $y = (x+3)^2$ $y = x^2 + 6x + 9$

intercepts: y-int: (0, 9) x-int: (-3, 0)

symmetry: none

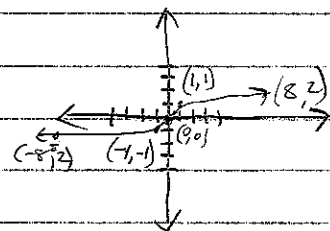


51. $x = y^3$

$(-x) = (-y)^3$

$-x = -y^3$ equivalent,

\Rightarrow origin symmetry



p. 8 (3)

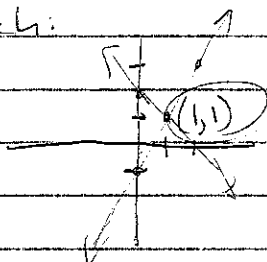
61. $x + y = 2$
 $2x - y = 1$

$y = 2x - 1$
 $-x + 2 = 2x - 1$
 $+x + 1 = 2x - 1$

$\frac{3 = 3x}{3} \quad \frac{3}{3}$

$x = 1$
 $y = -1 + 2$
 $y = 1$ (1, 1)

sketch:



63. $y = -x^2 + 6$
 $x^2 + y = 6$
 $x + y = 4$
 $y = -x + 4$

$-x^2 + 6 = -x + 4$
 $+x^2 - 2 = +x - 4$

$0 = x^2 - x - 2$

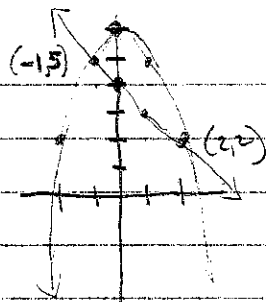
$0 = (x - 2)(x + 1)$

$x - 2 = 0$ $x + 1 = 0$

$x = 2$ $x = -1$

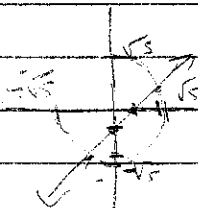
~~$-2 + 4 = 2$ $+1 + 4 = 5$~~

(2, 2) (-1, 5)



65.

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



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

$x^2 + x^2 - 2x + 1 = 5$

$2x^2 - 2x + 1 = 5$
 $-5 \quad -5$

$2x^2 - 2x - 4 = 0$

$2(x^2 - x - 2) = 0$

$2(x - 2)(x + 1) = 0$

$x - 2 = 0$ $x + 1 = 0$

$x = 2$ $x = -1$

$2 - 1 = y$ $y = 1$ $-1 - 1 = -2$

(2, 1)

(-1, -2)

#75. $R = C$

$3.29x = 5.5\sqrt{x} + 10,000$

$(5.5\sqrt{x})^2 = (3.29x - 10,000)^2$

$30.25x = 10.8241x^2 - 32900x + 100,000,000$

$0 = 10.8241x^2 - 65830.25x + 100,000,000$

$65830.25 \pm \sqrt{(-65830.25)^2 - 4(10.8241)(100,000,000)}$
 $2(10.8241)$

~~103133~~

≈ 2948.73 Doesn't work

$10307 = 10307$

$9701 \neq 10,299$

or use ~~6m~~ calculator window tricky

81. False. Graphs that have x-axis symmetry have opposite y-values.

82. True

83. True

84. True