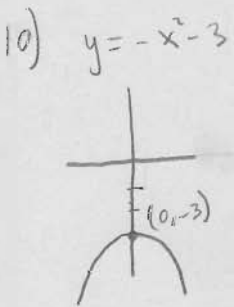
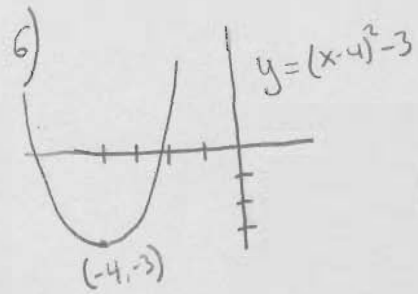
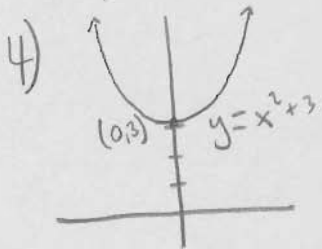
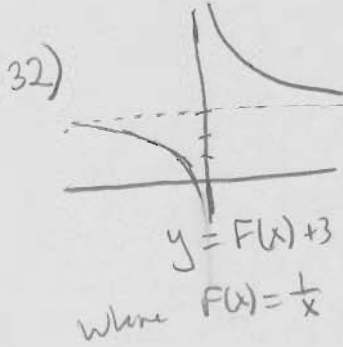
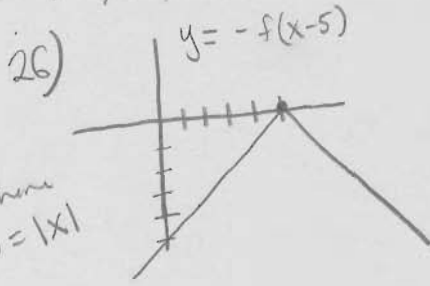


3.4

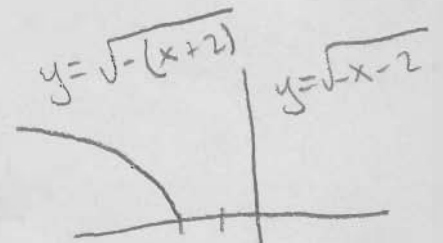
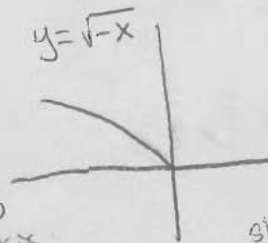
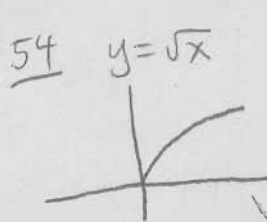
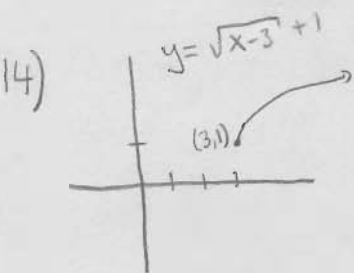
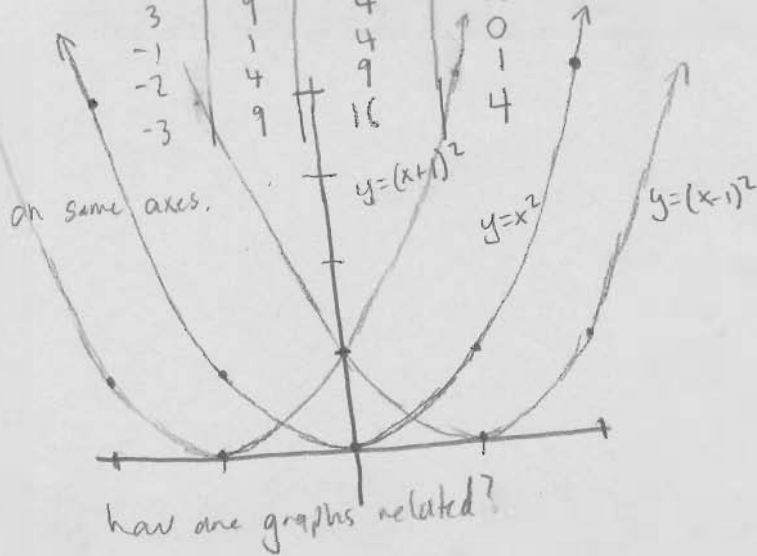
2, 4, 6, 10, 14, 26, 32, 48, 54

- 2) (a) K
- (b) B
- (c) J
- (d) L
- (e) A
- (f) C
- (g) E
- (h) D
- (i) H
- (j) G
- (k) I
- (l) F



48)

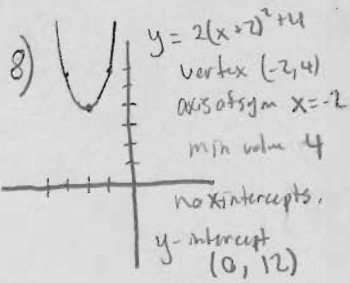
x	x ²	(x-1) ²	(x+1) ²
0	0	1	1
1	1	0	4
2	4	1	9
3	9	4	16
-1	1	4	0
-2	4	9	1
-3	9	16	4



reflect in y-axis,
replace x with -x

shift 2 left,
replace x with x+2

equation: $y = \sqrt{-x-2}$



54) $f(x) = ax^2 + bx + c$

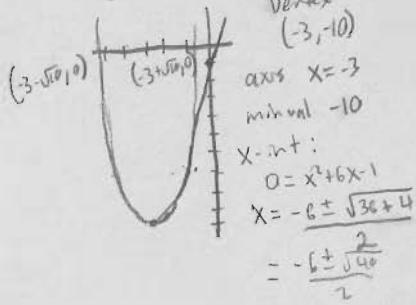
$$\frac{f(x+h) - f(x)}{h} = \frac{a(x+h)^2 + b(x+h) + c - ax^2 - bx - c}{h}$$

$$= \frac{ax^2 + 2axh + ah^2 + bx + bh - ax^2 - bx}{h}$$

$$= \frac{2axh + ah^2 + bh}{h} = 2ax + ah + b$$

10) $y = x^2 + 6x - 1$

$y = (x+3)^2 - 10$



55) $x = \frac{a+b}{2}$

57) $y = a(x-2)^2 + 2$ vertex $(2, 2)$ point $(0, 0)$ $0 = a(0-2)^2 + 2 \Rightarrow a = -\frac{1}{2}$

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

y-intercept $(0, -1)$

62) min value = $\sqrt{2}$

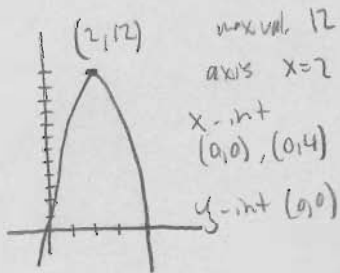
$f(x) = x^2 + 2x + c$

$f(x) = (x^2 + 2x + 1) - 1 + c$

$f(x) = (x+1)^2 - 1 + c$
 min val
 $-1 + c = \sqrt{2}$

$c = 1 + \sqrt{2}$

18) $y = -3(x^2 - 4x + 4) + 12$
 $= -3(x-2)^2 + 12$



22) $f(x) = 8x^2 + x - 5$

smallest occurs when

$x = \frac{-1}{2(8)} = -\frac{1}{16}$

26) $h(x) = x^2 - 10x$

smallest @ $x = \frac{10}{2} = 5$

45) (a) $f(x) = \sqrt{-x^2 + 4x + 12}$

$= \sqrt{-(x^2 - 4x + 4) + 12 + 4}$

$= \sqrt{-(x-2)^2 + 16}$

max value of $f = 4$