HW 55

p266

AAT

3. quadratic, parabola

4. vertex

5. positive, negative

43. $y = a(x+1)^2 + 4$
$0 = a(-3+1)^2 + 4$
$-4 = 4a$
$-1 = a$

$\boxed{y = -(x+1)^2 + 4} \rightarrow y = -x^2 - 2x + 3$

44. $y = a(x+2)^2 - 1$
$3 = a(0+2)^2 - 1$
$4 = 4a$
$1 = a$

$\boxed{y = (x+2)^2 - 1} \rightarrow y = x^2 + 4x + 3$

45. $y = a(x+2)^2 + 2$
$0 = a(-3+2)^2 + 2$
$-2 = a$

$y = -2(x+2)^2 + 2$
$y = -2x^2 - 8x - 8 + 2$
$\boxed{y = -2x^2 - 8x - 6}$

46. $y = a(x-2)^2$
$2 = a(3-2)^2$
$2 = a$

$y = 2(x-2)^2$
$\boxed{y = 2x^2 - 8x + 8}$

47. $9 = a(0+2)^2 + 5$
$4 = 4a$
$1 = a$

$y = (x+2)^2 + 5$
$\boxed{y = x^2 + 4x + 9}$

49. $14 = a(-1-1)^2 - 2$
$16 = a(4)$
$4 = a$

$y = 4(x-1)^2 - 2$
$\boxed{y = 4x^2 - 8x + 2}$

50. $2 = a(0-2)^2 + 3$
$-1 = 4a$
$-1/4 = a$

$y = -1/4(x-2)^2 + 3$
$\boxed{y = -1/4x^2 + x + 2}$

77. $-b/2a = 10/2(0.25)$

$= 10/.5 =$ **20 fixtures**

79. a) \$20 → $-10{,}000 + 24000 =$ \$14,000

\$25 → $-15625 + 30000 =$ \$14,375

\$30 → $-22500 + 36000 =$ \$13,500

b) $-b/2a = -1200/2(-25) =$ **\$24**