A24

3.41
1.127/130 / 1-4, 5-18 (state best method), solve 15, 18
21, 25, 26, 29-32, 61, 64, 66, 69, ~~71~~
(√, F, CS, QF)

Key

① $\frac{-b \pm \sqrt{b^2-4ac}}{2a}$ ② discriminant ③ two imaginary solutions ④ Quad. formula, Complete the Square, difficult if $a \neq 1$ $b \neq$ even

⑤ F ⑥ F ⑦ CS ⑧ QF ⑨ F ⑩ F ⑪ QF ⑫ QF ⑬ F ⑭ QF

⑮ QF ⑯ F ⑰ CS ⑱ QF

15. $-4x^2+3x+5=0$

$x = \frac{-3 \pm \sqrt{9-4(-4)(5)}}{2(-4)}$

$= \frac{-3 \pm \sqrt{89}}{-8}$

⑮ $\frac{3 \pm \sqrt{89}}{8}$

18. $4w^2-7w+6$

$x = \frac{+7 \pm \sqrt{49-4\cdot4(6)}}{2\cdot4}$

$= \frac{7 \pm \sqrt{-47}}{8}$

⑱ $\frac{7 \pm i\sqrt{47}}{8}$

21. $(-4)^2-4(4)(-24)$

400

⑳ 2 real solutions

25. $(-24)^2-4(-3)(-48)$

576 − 576

0

㉕ one real solution

26. $(-1)^2-4(-2)(-6)$

−47

㉖ 2 imaginary solutions

29. $(-6)^2-4(1)(25)$

"−" so C

30. $(-20)^2-4(2)(50)$

400 − 400

0 so D

31. $(6)^2-4(3)(-9)$

+ 1 y-int = −9

so A

32. $(-10)^2-4(5)(-35)$

+ 1 y-int = −35

so B

61. $h = -16t^2+vt+h_0$

$3 = -16t^2+90t+7$

$-3 \quad -3$

$0 = -16t^2+90t+4$

$\frac{0}{-2} = \frac{-16t^2+90t+4}{-2}$

$0 = 8t^2-45t-2$

$x = \frac{+45 \pm \sqrt{(45)^2-4\cdot8(-2)}}{16}$

$\frac{45 \pm 45.7}{16}$

⑥① 5.67 sec

64. $h = -16t^2+vt+h_0$

$3 = -16t^2+0t+5$

$-3 \quad -3$

$0 = -16t^2+2$

$\frac{-2}{-2} = \frac{-16t^2+2}{-2}$

$0 = 8t^2-1$

$+1 \quad +1$

$1 = 8t^2$

$\frac{1}{8} = \frac{8t^2}{8}$

$\sqrt{\frac{1}{8}} = \sqrt{t^2}$

⑥④ .35 sec = t

66. $A = -4.5t^2+43.5t+17$

a. $65 = -4.5t^2+43.5t+17$

$-65 \quad -65$

$0 = -4.5t^2+43.5-48$

$t = \frac{-43.5 \pm \sqrt{(43.5)^2-4(4.5)(-48)}}{2(4.5)}$

$t = \frac{-43.5 \pm 52.5}{9}$

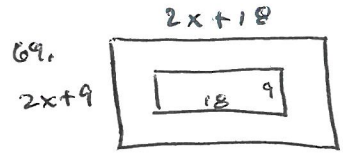
$t = 1$

⑥⑥a 2011

⑥⑥b 52.5 million

⑥⑥c no, sales will most likely decrease

69.



$(2x+9)(2x+18) = 400$

$4x^2+36x+18x+162 = 400$

$-400 \quad -400$

$\frac{4x^2+54x-238}{2} = \frac{0}{2}$

$2x^2+27x-119 = 0$

$x = \frac{-27 \pm \sqrt{(27)^2-4(2)(119)}}{4}$

$= \frac{-27 \pm 41}{4}$

⑥⑨ 3.5 ft