9.6 pg. 586 #8-40 even

* Answers are NOT in order.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

8) $5x^2 + 16x - 84 = 0$

$x = \frac{-16 \pm \sqrt{16^2 - 4(5)(-84)}}{2(5)}$

$x = \frac{-16 \pm 44}{10}$

$x = \frac{-16+44}{10}, \frac{-16-44}{10}$

2.8, -6

10) $3x^2 - 41x + 110 = 0$

$x = \frac{41 \pm \sqrt{-41^2 - 4(3)(110)}}{2(3)}$

$x = \frac{41 \pm 19}{6}$

$\frac{41+19}{6}, \frac{41-19}{6}$

10, 3.6 or $\frac{11}{3}$ or $3\frac{2}{3}$

12) $3x^2 + 44x + 96 = 0$

$x = \frac{-44 \pm \sqrt{44^2 - 4(3)(96)}}{2(3)}$

$x = \frac{-44 \pm 28}{6}$

$-2.\overline{6}$, -12 or $-2\frac{2}{3}$

14) $2x^2 - x - 120 = 0$

$x = \frac{1 \pm \sqrt{1^2 - 4(2)(-120)}}{2(2)}$

$x = \frac{1 \pm 31}{4}$

8, -7.5

*Round to the nearest hundredth

$$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$$

16) $x^2+8x+11=0$

$= \frac{-8 \pm \sqrt{8^2-4(1)(11)}}{2(1)}$

$= \frac{-8 \pm \sqrt{20}}{2}$

$= \frac{-8 \pm 4.47}{2}$

$= -1.77, -6.24$

18) $2x^2-16x+25=0$

$= \frac{+16 \pm \sqrt{-16^2-4(2)(25)}}{2(2)}$

$= \frac{+16 \pm 7.48}{4}$

$5.87, 2.13$

20) $6x^2+9x-32=0$

$\frac{-9 \pm \sqrt{9^2-4(6)(-32)}}{2(6)}$

$\frac{-9 \pm 29.14}{12}$

$1.68, -3.18$

22) $y = -0.004x^2+x+2.5$

$\frac{-1 \pm \sqrt{1^2-4(-0.004)(2.5)}}{2(-0.004)}$

$\frac{-1 \pm 1.02}{-0.008}$

$-2.5, 252.5$

*Negative is not a valid answer

252.5 ft

24) Factor ; Diffence of 2 squares & there is no "x" term

26) Quadratic Formula or graphing ; & cannot be factored (no factors of 9, that give you a sum of -7)

28) (no factors of -4, that give you a sum of +8)

30) Find the Discriminant

$x^2+7x-5=0$

b^2-4ac

$7^2-4(1)(-5)$

$49+20$

69

positive :. two solutions

32) $x^2-15=0$

$0^2-4(1)(-15)$

$0+60$

positive :. 2 solutions

34) $9x^2+12x+4=0$

b^2-4ac

$12^2-4(9)(4)$

$144-144$

0

Zero :. there is 1 solution

36) $3x^2+2x-4=0$

$$\frac{-2 \pm \sqrt{2^2-4(3)(-4)}}{2(3)}$$

$$\frac{-2 \pm 7.21}{6}$$

$0.87, -1.54$

38) $3p^2+4p-10=0$

$$\frac{-4 \pm \sqrt{4^2-4(3)(-10)}}{2(3)}$$

$$\frac{-4 \pm 11.66}{6}$$

$1.28, -2.6$

37) $6g^2-18=0$

ODD

$6(g^2-3)=0$

$6 \neq 0$ & $g^2-3=0$

$+3 \quad +3$

$g^2=\pm 1.73$

40) $13r^2-117=0$

$13(r^2-9)=0$

$13(r-3)(r+3)=0$

$r=\pm 3$

SKIP

42) $\lg \square - \text{Sm} \square$

$(7+x)(5+x) - 7 \cdot 5$

$x^2+12x+35-35$

x^2+12x

25-40 odd

25) Quadratic formula or graphing; not factoring

27) Factoring

29) $x^2 - 2x + 3 = 0$

$b^2 - 4ac$

$-2^2 - 4(1)(3)$

$4 - 12$

negative; no solution

31) $x^2 + 3x + 11 = 0$

$b^2 - 4ac$

$3^2 - 4(1)(11)$

$9 - 44$

negative; no solution

33) $x^2 + 2x = 0$

$b^2 - 4ac$

$2^2 - 4(1)(0)$

$4 - 0$

4

positive; two solutions

35) $\frac{3w^2 = 48}{3}$

$w^2 = 16$

$w = \pm 4$

37) $6g^2 - 18 = 0$

$6g^2 - 18 = 0$

$+18 \quad +18$

$\frac{6g^2 = 18}{6}$

$g^2 = 3$

$g = \pm 1.73$

39) $K^2 - 4K \pm -4$

$K^2 - 4K + 4 = 0$

$(K-2)(K-2) = 0$

$K = 2$