

p. 656) 32-50 even

32)  $x \approx 9.45$  &  $4.55$

34)  $x \approx -2.27$  &  $-5.73$

36)  $x \approx 5.74$  &  $-1.74$

38)  $c \approx 10.45$  &  $5.55$

40)  $k \approx 9.87$  &  $2.13$

42)  $\pm 3$

44)  $t = -16$  &  $26$

46)  $m \approx \pm 1.94$

48)  $4.58m$

50)  $x = 6, -2$

Solutions

32)  $\sqrt{(x-7)^2} = \sqrt{6}$

$$\begin{array}{r} x-7 = \pm\sqrt{6} \\ +7 \quad +7 \end{array}$$

$$x = 7 \pm \sqrt{6}$$

CALC!

$$x = 7 + \sqrt{6} \quad x = 7 - \sqrt{6}$$

$$x \approx 9.45 \text{ \& \ } x \approx 4.55$$

34)  $\frac{6(x+4)^2}{6} = \frac{18}{6}$

$$\sqrt{(x+4)^2} = \sqrt{3}$$

$$\begin{array}{r} x+4 = \pm\sqrt{3} \\ -4 \quad -4 \end{array}$$

$$x = -4 \pm \sqrt{3}$$

CALC!

$$x = -4 + \sqrt{3} \quad x = -4 - \sqrt{3}$$

$$x \approx -2.27 \text{ \& \ } x \approx -5.73$$

36)  $\frac{5(a-2)^2}{5} = \frac{70}{5}$

$$\sqrt{(a-2)^2} = \sqrt{14}$$

$$\begin{array}{r} a-2 = \pm\sqrt{14} \\ +2 \quad +2 \end{array}$$

$$a = 2 \pm \sqrt{14}$$

CALC!

$$x = 2 + \sqrt{14} \quad x = 2 - \sqrt{14}$$

$$x \approx 5.74 \text{ \& \ } x \approx -1.74$$

38)  $\frac{\frac{1}{2}(c-8)^2}{\frac{1}{2}} = \frac{3}{\frac{1}{2}}$

$$\sqrt{(c-8)^2} = \sqrt{6}$$

$$\begin{array}{r} c-8 = \pm\sqrt{6} \\ +8 \quad +8 \end{array}$$

$$c = 8 \pm \sqrt{6}$$

CALC!

$$c = 8 + \sqrt{6} \quad c = 8 - \sqrt{6}$$

$$c \approx 10.45 \text{ \& \ } c \approx 5.55$$

40)  $\frac{3}{4} \left[ \frac{4}{3} (k-6)^2 \right] = 20 \cdot \frac{3}{4}$

$$\sqrt{(k-6)^2} = \sqrt{15}$$

$$k-6 = \pm\sqrt{15}$$

$$\begin{array}{r} +6 \quad +6 \end{array}$$

$$k = 6 \pm \sqrt{15}$$

CALC!

$$k = 6 + \sqrt{15} \quad k = 6 - \sqrt{15}$$

$$k \approx 9.87 \text{ \& \ } k \approx 2.13$$

42)  $\frac{42}{3} = \frac{3(x^2+5)}{3}$

$$\begin{array}{r} 14 = x^2 + 5 \\ -5 \quad -5 \end{array}$$

$$\sqrt{9} = \sqrt{x^2}$$

$$\pm 3 = x$$

$$C = 8 + \sqrt{6} \quad \dot{C} = 8 - \sqrt{6}$$

$$C \approx 10.45 \quad \& \quad C \approx 5.55$$

$$k = 6 + \sqrt{16} \quad k = 6 - \sqrt{16}$$

$$k \approx 9.87 \quad \& \quad k \approx 2.13$$

$$(44) \quad \sqrt{\left(\frac{t-5}{3}\right)^2} = \sqrt{49}$$

$$3\left(\frac{t-5}{3}\right) = (\pm 7)3$$

$$\frac{t-5}{+5} = \frac{\pm 21}{+5}$$

$$t = 5 \pm 21$$

$$t = 5 + 21 \quad t = 5 - 21$$

$$t = 26 \quad \& \quad t = -16$$

$$(46) \quad \sqrt{(4m^2 - 6)^2} = \sqrt{81}$$

$$\frac{4m^2 - 6}{+6} = \frac{\pm 9}{+6}$$

$$\frac{4m^2}{4} = \frac{6 \pm 9}{4}$$

$$m^2 = \frac{6 \pm 9}{4}$$

$$m^2 = \frac{6+9}{4} \quad \& \quad \frac{6-9}{4}$$

$$\sqrt{m^2} = \sqrt{\frac{15}{4}} \quad \& \quad \sqrt{m^2} = \sqrt{\frac{-3}{4}}$$

$$m = \pm \frac{\sqrt{15}}{2}$$

$$m \approx \pm 1.94$$

↑  
can't do!  
can't take  $\sqrt{\quad}$   
of a negative #

$$(48) \quad A = \pi r^2$$

$$\frac{21\pi}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{21} = \sqrt{r^2}$$

$$\pm \sqrt{21} = r$$

$$r = -4.58m, \quad 4.58m$$

↑  
can't  
have a  
negative radius

$$(50) \quad \frac{9}{-1} = \frac{\frac{1}{2}(x-2)^2 + 1}{-1}$$

$$2(8) = \left(\frac{1}{2}(x-2)^2\right)2$$

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

$$\frac{\pm 4}{+2} = \frac{x-2}{+2}$$

$$2 \pm 4 = x$$

$$x = 2 + 4 \quad \& \quad x = 2 - 4$$

$$x = 6 \quad \quad \quad x = -2$$