

pg. 154 #24-50 even

$$\textcircled{24} \quad \frac{2}{3}x + 4 = \frac{3}{5}x - 2$$

$$15\left(\frac{2}{3}x + 4\right) = \left(\frac{3}{5}x - 2\right)15$$

$$10x + 60 = 9x - 30$$

$$10x + 60 - 9x = 9x - 30 - 9x$$

$$x + 60 = -30$$

$$x + 60 - 60 = -30 - 60$$

$$x = -90$$

$$\textcircled{26} \quad 3(h-4) = -\frac{1}{2}(24-6h)$$

$$3h-12 = -12+3h$$

$$3h-12 = 3h-12$$

identity means infinitely many solutions

$$\textcircled{28} \quad \begin{array}{r} 8h \\ 8h = 6h + 16 \\ -6h \quad -6h \\ \hline 2h = 16 \\ 2 \quad 2 \\ \hline h = 8 \text{ ft} \end{array}$$

$$\textcircled{30} \quad \begin{array}{r} ax + bx = -c \\ x(a+b) = -c \\ \hline x = \frac{-c}{a+b} \end{array}$$

$$\textcircled{32} \quad m - 3x = 2x + p$$

$$m - 3x - 2x = p$$

$$m - 5x = p$$

$$-m \quad -m$$

$$-5x = p - m$$

$$-5 \quad -5$$

$$x = \frac{p-m}{-5} \quad \text{or} \quad x = \frac{-p+m}{5}$$

$$\begin{aligned} L \cdot W &= A \\ L \cdot W &= 220 \\ \frac{5.5 \cdot W}{5.5} &= \frac{220}{5.5} \\ \boxed{W} &= \boxed{40 \text{ cm}} \end{aligned}$$

$$\begin{aligned} A &= \frac{bh}{2} \\ 120 &= \frac{b(15)}{2} \\ 2 \cdot 120 &= \frac{b(15)}{\cancel{2}} \\ \frac{240}{15} &= \frac{15b}{15} \\ \boxed{16} &= \boxed{b} \end{aligned}$$

$$\begin{aligned} 38) \quad & 4 \text{ lb } 7 \text{ oz}; \text{ oz} \\ & \cancel{4 \text{ lb}} \quad 16 \text{ oz} + 7 \text{ oz} \\ & \quad 1 \text{ lb} \\ & 4 \cdot 16 \text{ oz} + 7 \text{ oz} \\ & 64 \text{ oz} + 7 \text{ oz} \\ & \boxed{71 \text{ oz}} \end{aligned}$$

$$\begin{aligned} 40) \quad & 2.25 \text{ mi}; \text{ yd} \\ & 2.25 \text{ mi} \cdot \frac{5280 \text{ ft}}{1 \text{ mi}} \cdot \frac{1 \text{ yd}}{3 \text{ ft}} = \frac{11880}{3} \\ & = \boxed{3960 \text{ yd}} \end{aligned}$$

$$\begin{aligned} 42) \quad & \frac{1}{4} \text{ oz/day} \qquad \qquad \qquad \text{lb/year} \\ & \frac{\cancel{1} \text{ oz}}{\text{day}} \cdot \frac{365 \text{ days}}{1 \text{ year}} \cdot \frac{1 \text{ lb}}{16 \cancel{\text{oz}}} = \frac{91.25}{16} = \boxed{5.71 \text{ lb/year}} \\ & \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qquad \text{about } 6 \text{ lbs} \end{aligned}$$

$$\begin{aligned} 44) \quad & \frac{3}{7} = \frac{9}{x} \\ & 7(9) = 3(x) \\ & \frac{63}{3} = \frac{3x}{3} \\ & \boxed{21} = \boxed{x} \end{aligned}$$

$$\begin{aligned} 46) \quad & \frac{6}{15} = \frac{a}{4} \\ & \frac{15a}{15} = \frac{24}{15} \\ & 15(24) = (15a)(15) \\ & \frac{360}{225} = \frac{225a}{225} \\ & \boxed{1.6} = \boxed{a} \end{aligned}$$

$$\begin{array}{r}
 \textcircled{48} \quad \frac{b+3}{7} = \frac{b-3}{6} \\
 6(b+3) = 7(b-3) \\
 6b+18 = 7b-21 \\
 6b+18-7b \quad 7b-21-7b \\
 -b+18 = -21 \\
 -b+18-18 = -21-18 \\
 \underline{-b} = \underline{-39} \\
 \quad -1 \quad \quad -1 \\
 \boxed{b = 39}
 \end{array}$$

$$\begin{array}{r}
 \textcircled{50} \quad \begin{array}{l} \text{wingspan} \\ \text{model} = 15\text{in} \\ \text{actual} = 25\text{ft} \end{array} = \frac{\text{length}}{20\text{ft}} = \frac{x}{20\text{ft}} \\
 25x = 15(20) \\
 \underline{25x = 300} \\
 \quad 25 \quad \quad 25 \\
 \boxed{x = 12}
 \end{array}$$

I did extra...

$$\begin{array}{r}
 \textcircled{52} \quad \frac{\text{is}}{\text{of}} = \frac{\%}{100} \quad \frac{111}{37} = \frac{x}{100} \\
 37x = 11,100 \\
 \underline{37x = 11,100} \\
 \quad 37 \quad \quad 37 \\
 \boxed{x = 300\%}
 \end{array}$$

$$\begin{array}{r}
 \textcircled{54} \quad \frac{\text{is}}{\text{of}} = \frac{\%}{100} \quad \frac{102}{x} = \frac{60}{100} \\
 60x = 10,200 \\
 \underline{60x = 10,200} \\
 \quad 60 \quad \quad 60 \\
 \boxed{x = 170}
 \end{array}$$