

$$\textcircled{1} 4 \cdot 2 \frac{1}{18}$$

$$\frac{4}{1} \cdot \frac{53}{18} \rightarrow \frac{2}{1} \cdot \frac{53}{9}$$

$$\boxed{\frac{106}{9}}$$

$$\textcircled{2} 6 \frac{2}{3} \cdot 1 \frac{2}{5}$$

$$\frac{4}{3} \cdot \frac{7}{5} \rightarrow \frac{4 \cdot 7}{3 \cdot 5} = \frac{28}{15}$$

$$\boxed{\frac{44}{5}}$$

$$\textcircled{3} \frac{1}{3} \cdot 4 \frac{1}{2}$$

$$\frac{4}{3} \cdot \frac{9}{2} \rightarrow \frac{2}{1} \cdot \frac{3}{1}$$

$$\boxed{6}$$

$$\textcircled{4} 5 \frac{5}{6} \cdot 2 \frac{4}{7}$$

$$\frac{35}{6} \cdot \frac{18}{7} \rightarrow \frac{5}{1} \cdot \frac{3}{1}$$

$$\boxed{15}$$

$$\textcircled{5} 5 \frac{5}{7} \div 8$$

$$\frac{40}{7} \div \frac{8}{1} \rightarrow \frac{40}{7} \cdot \frac{1}{8} \rightarrow \frac{5}{7} \cdot \frac{1}{1}$$

$$\boxed{\frac{5}{7}}$$

$$\textcircled{6} 4 \frac{4}{5} \div \frac{2}{5}$$

$$\frac{24}{5} \div \frac{2}{5} \rightarrow \frac{24}{5} \cdot \frac{5}{2} \rightarrow \frac{12}{1} \cdot \frac{1}{1}$$

$$\boxed{12}$$

$$\textcircled{7} 6 \frac{1}{6} \div 1 \frac{1}{30}$$

$$\frac{37}{6} \div \frac{31}{30} \rightarrow \frac{37}{6} \cdot \frac{30}{31} \rightarrow \frac{37}{1} \cdot \frac{5}{31}$$

$$\boxed{\frac{185}{31}}$$

$$\textcircled{8} 3 \frac{5}{4} \div 2 \frac{3}{4}$$

$$\frac{32}{4} \div \frac{11}{4} \rightarrow \frac{32}{4} \cdot \frac{4}{11} = \frac{128}{11}$$

$$\boxed{\frac{128}{11}}$$

$$\textcircled{9} 4 \frac{2}{4} - 2 \frac{5}{6}$$

$$2 \cdot \frac{38}{9} - \frac{17 \cdot 3}{6 \cdot 3}$$

$$\frac{76}{18} - \frac{51}{18} = \boxed{\frac{25}{18}}$$

$$\textcircled{10} 2 \frac{4}{9} + \frac{1 \cdot 4}{3 \cdot 6} - \frac{1 \cdot 3}{6 \cdot 3}$$

$$\frac{18}{18} + \frac{6}{18} - \frac{3}{18} = \boxed{\frac{11}{18}}$$

$$\textcircled{11} \frac{5}{8} - \frac{5}{8} + \frac{1}{2} \cdot 44$$

$$\frac{55}{88} - \frac{40}{88} + \frac{44}{88} = \boxed{\frac{59}{88}}$$

$$\textcircled{12} 94 + \frac{45}{x} \quad x=5$$

$$9(7) + \frac{45}{5}$$

$$9(7) + 9 = 63 + 9 = \boxed{72}$$

$$\textcircled{13} \frac{1}{2} + 2x^2 \quad x=5$$

$$\frac{16}{8} + 2(5)^2$$

$$2 + 2(5)^2$$

$$2 + 2(50)$$

$$2 + 100 = \boxed{102}$$

$$\textcircled{14} A = \frac{1}{2}bh$$

$$A = \frac{1}{2} \cdot (1 \frac{5}{6}) \cdot (1 \frac{1}{4})$$

$$A = \frac{1}{2} \cdot (\frac{11}{6}) \cdot (\frac{13}{4})$$

$$A = \boxed{\frac{143}{108} \text{ cm}^2}$$

$$\textcircled{15} A = LW$$

$$A = (\frac{10}{13}) \cdot (\frac{1}{5})$$

$$A = (\frac{2}{13}) \cdot (\frac{1}{1})$$

$$A = \boxed{\frac{2}{13} \text{ ft}^2}$$

$$\textcircled{16} -7m + 2 - 3 + 6 + m - 5$$

$$-6m + 2 - 3 + 6 - 5$$

$$-6m - 1 + 6 - 5$$

$$-6m + 5 - 5$$

$$\boxed{-6m}$$

$$\textcircled{17} -0.8c + 6 - 5c + 0.4$$

$$-5.8c + 6 + 0.4$$

$$\boxed{-5.8c + 6.4}$$

$$\textcircled{18} 5.6w - 1.5 - 3.4w + 8 + 2.3w$$

$$4.5w - 1.5 + 8$$

$$\boxed{4.5w + 6.5}$$

$$\textcircled{19} 7x^2 - 8x + 2 - 5x + 4 + 8x^2$$

$$\boxed{15x^2 - 13x + 6}$$

$$\textcircled{20} (2x+4) + 3 + 2x + (x-2)$$

$$5x + 4 + 3 - 2$$

$$\boxed{5x + 5 \text{ inches}}$$

$$\textcircled{21} 1 \frac{5}{8} + 1 \frac{1}{2} + 1 \frac{1}{2} + \frac{1}{4} + \frac{3}{8} + 1 \frac{3}{4}$$

$$\frac{13}{8} + \frac{3}{2} + \frac{3}{2} + \frac{1}{4} + \frac{3}{8} + \frac{7}{4}$$

$$\frac{16}{8} + \frac{3}{2} + \frac{3}{2} + \frac{1}{4} + \frac{7}{4}$$

$$\frac{16}{8} + \frac{6}{2} + \frac{8}{4}$$

$$2 + 3 + 2 = \boxed{7 \text{ miles}}$$

$$\textcircled{22} \frac{19}{14}x + \frac{6}{7} = \frac{9}{7}x$$

$$19x + \frac{6}{1} \cdot 2 = \frac{9}{1}x$$

$$19x + 12 = 9x$$

$$12 = -x$$

$$\boxed{x = -12}$$

$$\textcircled{23} \frac{1}{3}x + \frac{6}{5} = \frac{1}{7}x + \frac{10}{7}$$

$$x + 6 = \frac{5}{7}x + \frac{40}{7}$$

$$7x + 42 = 5x + 40$$

$$2x + 42 = 40$$

$$2x = -2$$

$$\boxed{x = -1}$$

24

$$1.4x - 4.2 = 0.8x - 1.5w$$

$$0.6x - 4.2 = -1.5w$$

$$0.6x = 2.64$$

$$x = 4.4$$

25

$$0.09(5x+4) = 0.45(x+7) - 2.79$$

$$0.45x + 0.36 = 0.45x + 3.15 - 2.79$$

$$0.45x + 0.36 = 0.45x + 0.36$$

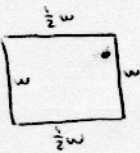
EQUAL

ALL SOLUTIONS

26

$$P = 3w$$

$$L = \frac{1}{2}w$$



$$P = 2w + 2L$$

$$36 = 2w + 2(\frac{1}{2}w)$$

$$36 = 2w + w$$

$$36 = 3w$$

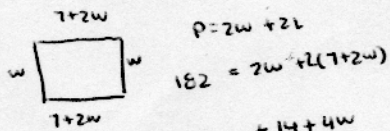
$$w = 12 \text{ ft}$$

$$L = \frac{1}{2}(12)$$

$$L = 6 \text{ ft}$$

27

$$L = 7 + 2w \quad P = 182$$



$$182 = 2w + 2(7+2w)$$

$$182 = 2w + 14 + 4w$$

$$182 = 6w + 14$$

$$168 = 6w$$

$$w = 28 \text{ ft}$$

$$L = 7 + 2w = 7 + 2(28)$$

$$L = 63 \text{ ft}$$

28

$$P = 54$$



$$L = 7 + S$$

$$R = 2 + S$$

$$P = L + R + S$$

$$54 = (7+S) + (2+S) + S$$

$$54 = 3S + 9$$

$$45 = 3S$$

$$S = 15 \text{ cm}$$

$$L = 7 + S = 22 \text{ cm}$$

$$R = 2 + S = 17 \text{ cm}$$

29  $A = \frac{1}{2}h(b+b)$

$$2A = h(b+b)$$

$$2A = hb + hb$$

$$2A - hb = hb$$

$$b = \frac{2A - hb}{h}$$

30  $F = \frac{9}{5}C + 32$

$$\frac{5}{9}(F-32) = \frac{9}{5}C \cdot \frac{5}{9}$$

$$C = \frac{5}{9}(F-32)$$

31  $S = 2\pi rh + 2\pi r^2$

$$S - 2\pi r^2 = 2\pi rh$$

$$h = \frac{S - 2\pi r^2}{2\pi r}$$

32 30% OFF = PAY 70%

$$70\% \text{ of } 57$$

$$(.70)(57) = \$39.90$$

33

$$45\% \text{ OFF} = \text{PAY } 55\%$$

$$55\% \text{ OF } 280$$

$$(.55)(280) = \$154$$

34

$$\% \text{ change} = \frac{\text{new} - \text{old}}{\text{old}} \times 100 \quad \text{new} = 360 \quad \text{old} = 300$$

$$\frac{360 - 300}{300} \times 100 = 20\%$$

35

$$\% \text{ change} = \frac{\text{new} - \text{old}}{\text{old}} \times 100$$

$$\text{new} = 121 \quad \text{old} = 136$$

$$\frac{121 - 136}{136} \times 100 = -11\% \text{ decrease}$$

36  $I = P_1 r_1 t + P_2 r_2 t$

$$P_1 = x \quad P_2 = 10000 - x$$

$$r_1 = .06 \quad r_2 = .11$$

$$I = 700 \quad t = 1$$

$$700 = .06x + .11(10000 - x)$$

$$700 = .06x + 1100 - .11x$$

$$700 = -.05x + 1100$$

$$-400 = -.05x$$

$$x = 8000$$

$$P_1 = \text{certificate} \quad P_2 = \text{mutual fund}$$

$$P_1 = 10000 - 8000 \quad P_2 = 82000$$

37

$$I = P_1 r_1 t + P_2 r_2 t$$

$$P_1 = 2000 \quad r_1 = .10 \quad I = 5000$$

$$P_2 = x \quad r_2 = .12 \quad t = 1$$

$$5000 = (2000)(.10) + .12x$$

$$5000 = 200 + .12x$$

$$4800 = .12x$$

$$x = \$40,000$$

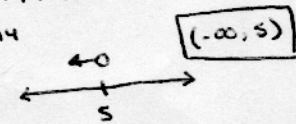
38  $-3x + 4 + 9x < 6 + 4x + 8$

$$6x + 4 < 14 + 4x$$

$$2x + 4 < 14$$

$$2x < 10$$

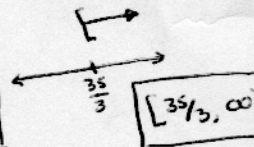
$$x < 5$$



39  $\frac{3}{5}x \geq 7$

$$3x \geq 35$$

$$x \geq \frac{35}{3}$$

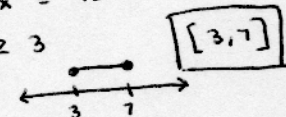


40  $-30 \leq -4x - 2 \leq -14$

$$-28 \leq -4x \leq -12$$

$$7 \geq x \geq 3$$

$$3 \leq x \leq 7$$



41

$$4 \leq 2(x-5) \leq 8$$

$$4 \leq 2x - 10 \leq 8$$

$$14 \leq 2x \leq 18$$

$$7 \leq x \leq 9$$

