

$$\begin{aligned} 1) & (-2)^3 - 18 \div (-2) \\ & = -8 - 18 \div (-2) \\ & = -8 - (-9) \\ & = -8 + 9 \\ & = 1 \quad (D) \end{aligned}$$

$$\begin{aligned} 2) \text{ Sum} &= 83 + 77 + 69 + 73 + 83 \\ &= 385 \\ \text{mean} &= \frac{385}{5} = 77 \quad (C) \end{aligned}$$

$$\begin{aligned} 3) & 13 - z^2 ; z = -4 \\ & \rightarrow 13 - (-4)^2 \\ & = 13 - 16 \\ & = -3 \quad (A) \end{aligned}$$

$$\begin{aligned} 4) & -5(3z+2) - z - 11 \\ & = -15z - 10 - z - 11 \\ & = -16z - 21 \quad (C) \end{aligned}$$

$$\begin{aligned} 5) A &= l \cdot w \\ A &= 8(2x-5) \text{ m}^2 \\ A &= (16x-40) \text{ m}^2 \quad (D) \end{aligned}$$

$$\begin{aligned} 6) \frac{x}{2} &= -1 - (-8) \\ \frac{x}{2} &= -1 + 8 \\ \frac{x}{2} &= 7 \\ x &= 7 \cdot 2 \\ x &= 14 \quad (A) \end{aligned}$$

$$\begin{aligned} 7) & -2(x-10) - 6 = 12 - 14 \\ & -2x + 20 - 6 = -2 \\ & -2x + 14 = -2 \\ & -2x = -2 - 14 \\ & -2x = -16 \\ & x = \frac{-16}{-2} \\ & x = 8 \quad (D) \end{aligned}$$

8) "subtracted from"
→ reverse order.

$$-9 - 5x \quad (A)$$

$$9) 3x + 5 = -25 \quad (D)$$

$$\begin{aligned} 10) & \frac{7a}{63} + \frac{2}{9} \\ & = \frac{7a}{63} + \frac{14}{63} \\ & = \frac{7a+14}{63} \quad (B) \end{aligned}$$

$$\begin{aligned} 11) & -\frac{1}{12} + \frac{5}{36} - \frac{1}{4} \\ & = -\frac{3}{36} + \frac{5}{36} - \frac{9}{36} \\ & = -\frac{7}{36} \quad (D) \end{aligned}$$

$$\begin{aligned} 12) & 17 - 8\frac{2}{9} \\ & = 16\frac{9}{9} - 8\frac{2}{9} \\ & = 8\frac{7}{9} \quad (C) \end{aligned}$$

$$\begin{aligned} 13) & 6 - \frac{3}{5} \cdot \frac{20}{20} \\ & \frac{1 - \frac{3}{4}}{20 - 15} = \frac{108}{5} \quad (D) \end{aligned}$$

$$\begin{aligned} 14) & \frac{5}{4}x = \frac{15}{16} \\ x &= \frac{15}{16} \cdot \frac{4}{5} \\ x &= \frac{3}{4} \quad (C) \end{aligned}$$

$$\begin{aligned} 15) & \frac{x}{9} - \frac{x}{8} = \frac{7}{9} \\ & \times 72 \\ 8x - 9x &= 56 \\ -x &= 56 \\ x &= -56 \quad (B) \end{aligned}$$

16) $l = \frac{1}{9} \text{ ft}$ | page 1
 $w = \frac{6}{13} \text{ ft}$

$$\begin{aligned} \text{Perimeter} &= 2\left(\frac{1}{9}\right) + 2\left(\frac{6}{13}\right) \text{ ft} \\ &= \left(\frac{2}{9} + \frac{12}{13}\right) \text{ ft} \\ &= \left(\frac{26}{117} + \frac{108}{117}\right) \text{ ft} \\ &= \frac{134}{117} \text{ ft} \\ &= 1\frac{17}{117} \text{ ft} \end{aligned}$$

$$\begin{aligned} \text{Area} &= \frac{1}{9} \cdot \frac{6}{13} \text{ ft}^2 \\ &= \frac{2}{39} \text{ ft}^2 \quad (D) \end{aligned}$$

$$\begin{aligned} 17) & 9.87 - 30.35 \\ & = -20.48 \quad (C) \end{aligned}$$

$$\begin{aligned} 18) & -0.00804 \div (-0.52) \\ & = 0.804 \div 52 \\ & \approx 0.0154 \quad (C) \end{aligned}$$

$$\begin{aligned} 19) & -\frac{13}{25} \\ & = -0.52 \quad (A) \end{aligned}$$

$$\begin{aligned} 20) & (-0.4)^2 + 1.23 \\ & = 0.16 + 1.23 \\ & = 1.39 \quad (C) \end{aligned}$$

$$\begin{aligned} 21) & 2.8x - 3.5 - 1.6x - 9.8 \\ & = 1.2x - 13.3 \quad (C) \end{aligned}$$

cont

$$\begin{aligned} 22) \quad 0.3x + 1.6 &= -0.5 \\ 0.3x &= -0.5 - 1.6 \\ 0.3x &= -2.1 \\ x &= \frac{-2.1}{0.3} \\ x &= -\frac{2.1}{3} \\ x &= -\frac{7}{10} \quad (D) \end{aligned}$$

$$\begin{aligned} 23) \quad 3(x+5.7) &= 7x-2.1 \\ 3x+17.1 &= 7x-2.1 \\ 17.1 &= 7x-2.1-3x \\ 17.1 &= 4x-2.1 \\ 17.1+2.1 &= 4x \\ 19.2 &= 4x \\ \frac{19.2}{4} &= x \\ 4.8 &= x \quad (D) \end{aligned}$$

$$\begin{aligned} 24) \quad A_A &= \frac{1}{2}bh \\ A_A &= \frac{1}{2} \cdot 4.3 \cdot 1.2 \text{ mi}^2 \\ A_A &= 2.15 \cdot 1.2 \text{ mi}^2 \\ A_A &= 2.58 \text{ mi}^2 \quad (B) \end{aligned}$$

$$25) \quad \frac{600\text{¢}}{760\text{¢}} = \frac{60}{76} = \frac{30}{38} = \frac{15}{19} \quad (B)$$

$$\begin{aligned} 26) \quad T\frac{1}{6} &\text{ to } 1\frac{2}{7} \\ \frac{T\frac{1}{6}}{1\frac{2}{7}} &= \frac{\frac{43}{6}}{\frac{9}{7}} \\ &= \frac{43}{6} \div \frac{9}{7} \\ &= \frac{43}{6} \cdot \frac{7}{9} \\ &= \frac{301}{54} \quad (A) \end{aligned}$$

$$\begin{aligned} 27) \quad \frac{1205 \text{ mi}}{50 \text{ hr}} &= 24.1 \text{ mi/hr} \quad (B) \end{aligned}$$

$$\begin{aligned} 28) \quad \frac{0.9}{5} &= \frac{1.8}{n} \\ \text{CM} \Rightarrow 0.9n &= 5 \cdot 1.8 \\ 0.9n &= 9.0 \\ n &= \frac{9.0}{0.9} \\ n &= \frac{90}{9} \\ n &= 10 \quad (C) \end{aligned}$$

$$\begin{aligned} 29) \quad \frac{5 \text{ gr}}{15 \text{ lb}} &= \frac{n}{95 \text{ lb}} \\ \Rightarrow 5 \cdot 95 &= 15 \cdot n \\ 475 &= 15n \\ \frac{475}{15} &= n \\ \frac{95}{3} &= n \\ 31\frac{2}{3} &= n \quad (B) \end{aligned}$$

$$\begin{aligned} 30) \quad \frac{6}{25} &= \frac{n}{62.5} \\ \text{CM} \Rightarrow 6 \cdot 62.5 &= 25n \\ 375 &= 25n \\ \frac{375}{25} &= n \\ 15 &= n \quad (D) \end{aligned}$$

NOTE: Can also start with

$$\frac{6}{n} = \frac{25}{62.5}$$

$$\begin{aligned} 31) \quad 0.5\% &= \frac{0.5}{100} \\ &= 0.005 \quad (A) \end{aligned}$$

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$$\begin{aligned} 32) \quad 87.5\% &= \frac{87.5}{100} \\ &= \frac{875}{1000} = \frac{175}{200} = \frac{7}{8} \quad (C) \end{aligned}$$

$$\begin{aligned} 33) \quad \frac{13}{16} &= \frac{13}{16} \times 100\% \\ &= \frac{1300}{16}\% \\ &= 81.25\% \quad (C) \end{aligned}$$

$$\begin{aligned} 34) \quad 17 &= 4\% \cdot x \\ 17 &= \frac{4}{100} \cdot x \\ 17 &= \frac{1}{25} x \\ 17 \cdot 25 &= x \\ 425 &= x \quad (D) \end{aligned}$$

$$\begin{aligned} 35) \quad 24\% \cdot \text{lawyers} &= \text{female} \\ 24\% \cdot 150 &= F \\ 0.24 \times 150 &= F \\ 36 &= F \quad (C) \end{aligned}$$

$$36) \quad G(3,0) \quad H(-2,-3) \quad (B)$$

$$\begin{aligned} 37) \quad -2 + 9x &= 43 \\ 9x &= 43+2 \\ 9x &= 45 \\ x &= \frac{45}{9} \\ x &= 5 \quad (D) \end{aligned}$$

$$38) \quad \frac{-16}{-6-2} = \frac{-16}{-8} = 2 \quad (B)$$

$$\begin{aligned} 39) \quad -8^2 - 9^2 &= -64 - 81 \\ &= -145 \quad (C) \end{aligned}$$

$$\begin{aligned} 40) \quad 7 - \frac{y}{12} &= \frac{84-y}{12} \quad (D) \end{aligned}$$