

DIRECTED NUMBERS

Form 1 Summer Course

Vol 1 - CH1

Part 1 - Number Line

1. A
2. D
3. D

Part 2 - Additional and Subtraction

$$\begin{aligned} \text{(a)} \quad & 0 - 10 + 11 - 12 \\ & = -10 + 11 - 12 \\ & = 1 - 12 \\ & = -11 \end{aligned}$$

$$\begin{aligned} \text{(b)} \quad & (+2) + (-3) - (+4) \\ & = 2 - 3 - 4 \\ & = -1 - 4 \\ & = -5 \end{aligned}$$

$$\begin{aligned} \text{(c)} \quad & (+3) + (-2) - (-7) \\ & = 3 - 2 + 7 \\ & = 8 \end{aligned}$$

$$\begin{aligned} \text{(d)} \quad & (+3) + (+4) - (+5) \\ & = 3 + 4 - 5 \\ & = 2 \end{aligned}$$

$$\begin{aligned} \text{(e)} \quad & (-6) - (+8.5) + (-9) \\ & = -6 - 8.5 - 9 \\ & = -14.5 - 9 \\ & = -23.5 \end{aligned}$$

$$\begin{aligned} \text{(f)} \quad & (-2) - [(-9) - (-7)] \\ & = -2 - (-9 + 7) \\ & = -2 - (-2) \\ & = -2 + 2 \\ & = 0 \end{aligned}$$

$$\begin{aligned} \text{(g)} \quad & -(-4) - [(+5) + (-6)] \\ & = 4 - (5 - 6) \\ & = 4 - (-1) \\ & = 4 + 1 \\ & = 5 \end{aligned}$$

$$\begin{aligned} \text{(h)} \quad & [(-10) + (-2)] - (-9) \\ & = (-10 - 2) + 9 \\ & = -12 + 9 \\ & = -3 \end{aligned}$$

$$\begin{aligned} \text{(i)} \quad & (-2.6) + (-3) - (-9.4) + (-1) \\ & = -2.6 - 3 + 9.4 - 1 \\ & = -5.6 + 9.4 - 1 \\ & = 3.8 - 1 \\ & = 2.8 \end{aligned}$$

$$\begin{aligned} \text{(j)} \quad & 0 - \left[-4 + \left(-\frac{1}{2} + \frac{1}{3} \right) \right] \\ & = 0 - \left[-4 + \left(-\frac{3}{6} + \frac{2}{6} \right) \right] \\ & = 0 - \left[-4 + \left(-\frac{1}{6} \right) \right] \\ & = 0 - \left(-4 - \frac{1}{6} \right) \\ & = 0 - \left(-4\frac{1}{6} \right) \\ & = 4\frac{1}{6} \end{aligned}$$

Part 3 - Multiplication and Division

(a) $(+12)(-5) = -60$

(b) $(+18) \div (-18) = -1$

(c) $(-7)(+3)(-9) = 189$

(d) $(-3) \times (-8) \div (-4) = -6$

(e) $28.8 \div (-7.2) \div (-2) = 2$

(f) $(-1)(+1)(-1)(+1) = 1$

(g) $(-2.4) \div (+3) \times (+8) \div (-2) = 3.2$

(h) $(+5) \div \left(+\frac{1}{2}\right) = 10$

(i) $(-32) \times \frac{5}{8} \times \left(-\frac{7}{10}\right) = 14$

(j) $(+10) \div \left(-3\frac{1}{2}\right) \times (+6)$

$$= -\left(10 \times \frac{2}{7} \times 6\right)$$

$$= -\frac{120}{7}$$