

RD Sharma
Solutions

Class 7

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Exercise 1.4

Simplify each of the following

$$\begin{aligned} 1. \quad 3 - (5 - 6 \div 3) &= 3 - (5 - 2) \\ &= 3 - 3 = 0 \end{aligned}$$

$$\begin{aligned} 2. \quad -25 + 14 \div (5 - 3) &= -25 + (14 \div 2) \\ &= -25 + 7 = -18 \end{aligned}$$

$$\begin{aligned} 3. \quad 25 - \frac{1}{2} \{ 5 + 4 - (3 + 2 - \overline{1 + 3}) \} \\ &= 25 - \frac{1}{2} \{ 9 - (5 - 4) \} \\ &= 25 - \frac{1}{2} (9 - 1) \\ &= 25 - \frac{1}{2} \times 8 \\ &= 25 - 4 \\ &= 21 \end{aligned}$$

$$\begin{aligned} 4. \quad 27 - [38 - \{46 - (15 - \overline{13 - 2})\}] \\ &= 27 - [38 - \{46 - (15 - 11)\}] \\ &= 27 - [38 - (46 - 4)] \\ &= 27 - [38 - 42] = 27 - (-4) \\ &= 27 + 4 = 31 \end{aligned}$$

$$\begin{aligned}
 \underline{5} \quad & 36 - [18 - \{14 - (15 - 4 \div 2 \times 2)\}] \\
 &= 36 - [18 - \{14 - (15 - 2 \times 2)\}] \\
 &= 36 - [18 - \{14 - (15 - 4)\}] \\
 &= 36 - [18 - (14 - 11)] \\
 &= 36 - [18 - 3] = 36 - 15 = 21
 \end{aligned}$$

$$\begin{aligned}
 \underline{6.} \quad & 45 - [38 - \{60 \div 3 - (6 - 9 \div 3) \div 3\}] \\
 &= 45 - [38 - \{60 \div 3 - (6 - 3) \div 3\}] \\
 &= 45 - [38 - \{20 - 3 \div 3\}] \\
 &= 45 - [38 - (20 - 1)] \\
 &= 45 - (38 - 19) = 45 - 19 \\
 &= 26
 \end{aligned}$$

$$\begin{aligned}
 \underline{7.} \quad & 23 - [23 - \{23 - (23 - \overline{23 - 23})\}] \\
 &= 23 - [23 - \{23 - (23 - 0)\}] \\
 &= 23 - [23 - (23 - 23)] = 23 - [23 - 0] = 23 - 23 \\
 &= 0
 \end{aligned}$$

$$\begin{aligned}
 \underline{8} \quad & 2550 - [510 - \{270 - (90 - \overline{80 + 70})\}] \\
 &= 2550 - [510 - \{270 - (90 - 10)\}] \\
 &= 2550 - [510 - (270 - 80)]
 \end{aligned}$$

$$= 2550 - [510 - 190]$$

$$= 2550 - 320$$

$$= 2370$$

$$\textcircled{9} \quad 4 + \frac{1}{5} \left[\{-10 \times (25 - \overline{13-3})\} \div (-5) \right]$$

$$= 4 + \frac{1}{5} \left[\{-10 \times (25 - 10)\} \div (-5) \right]$$

$$= 4 + \frac{1}{5} \left[\{-10 \times 15\} \div (-5) \right]$$

$$= 4 + \frac{1}{5} [-150 \div -5]$$

$$= 4 + \frac{1}{5} (+30) = 4 + 6 = 10$$

$$\textcircled{10} \quad 22 - \frac{1}{4} \{-5 - (-48) \div (-16)\}$$

$$= 22 - \frac{1}{4} \{-5 + 48 \div (-16)\}$$

$$= 22 - \frac{1}{4} (-5 - 3) = 22 - \frac{1}{4} (-8)$$

$$= 22 + 2 = 24$$

$$\textcircled{11} \quad 63 - [(-3) \{-2 - \overline{8-3}\}] \div [3 \{5 + (-2)(-1)\}]$$

$$= 63 - [(-3) \{-2 - 5\}] \div [3 \{5 + 2\}]$$

$$= 63 - [-3 \times -7] \div [3 \times 7] = 63 - 21 \div 21$$

$$= 63 - 1$$

$$= 62$$

$$\begin{aligned}
 & \underline{12} \quad [29 - (-2) \{6 - (7 - 3)\}] \div [3 \times \{5 + (-3) \times (-2)\}] \\
 & = [29 - (-2) \{6 - 4\}] \div [3 \times \{5 + 6\}] \\
 & = [29 + 2 \times 2] \div [3 \times 11] \\
 & = [29 + 4] \div [3 \times 11] \\
 & = 33 \div 33 \\
 & = 1
 \end{aligned}$$

Q.13 Using brackets, write a mathematical expression for each of the following.

- (i) Nine multiplied by the sum of two and five.
- (ii) Twelve divided by the sum of one and three.
- (iii) Twenty divided by the difference of seven and two.
- (iv) Eight subtracted from the product of two and three.
- (v) Forty divided by one more than the sum of nine and ten.
- (vi) Two multiplied by one less than the difference of nineteen and six.

Solution (i) $9(2+5)$

(ii) $12 \div (1+3)$

(iii) $20 \div (7-2)$

(iv) $2 \times 3 - 8$

(v) $40 \div \{1 + (9 + 10)\}$

(vi) $2 \times \{(19 - 6) - 1\}$