

# CLASS - VII

## Maths

### Exercise - 1.4

classmate

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Simplify the following:-

$$\begin{aligned} \textcircled{1} & 21 - 12 \div 3 \times 2 \\ & = 21 - 4 \times 2 \quad (\text{division}) \\ & = 21 - 8 \quad (\text{multiplication}) \\ & = \boxed{13} \quad \underline{\text{Ans}} \end{aligned}$$

$$\begin{aligned} \textcircled{2} & 16 + 8 \div 4 - 2 \times 3 \\ & = 16 + 2 - 2 \times 3 \quad (\text{division}) \\ & = 16 + 2 - 6 \quad (\text{multiplication}) \\ & = 18 - 6 \quad (\text{addition}) \\ & = \boxed{12} \quad \underline{\text{Ans}} \quad (\text{subtraction}) \end{aligned}$$

$$\begin{aligned} \textcircled{3} & 64 \div 16 \times (-3) + 2 \\ & = 4 \times (-3) + 2 \quad (\text{division}) \\ & = -12 + 2 \quad (\text{multiplication}) \\ & = \boxed{-10} \quad \underline{\text{Ans}} \quad (\text{subtraction}) \end{aligned}$$

$$\begin{aligned} \textcircled{4} & (-16) + (-18) + (-2) \\ & = -16 - 18 - 2 \\ & = -16 - 20 \\ & = \boxed{-36} \quad \underline{\text{Ans}} \end{aligned}$$

$$\begin{aligned} \textcircled{5} & 65 \times (-5) + 80 \div (-20) \\ & = 65 \times (-5) + (-4) \\ & = (-325) + (-4) \\ & = -325 - 4 \\ & = \boxed{-329} \quad \underline{\text{Ans}} \end{aligned}$$

$$\begin{aligned}
 & \textcircled{6.} \quad [-15 + \{4 \div (-1) - (-3)\} \times 6] \\
 & = [-15 + \{4 \div (-1 + 3)\} \times 6] \quad (\text{removing vinculum}) \\
 & = [-15 + \{4 \div 2\} \times 6] \quad (\text{removing parentheses}) \\
 & = [-15 + 2 \times 6] \quad (\text{removing braces}) \\
 & = [-15 + 12] \quad (\text{removing square brackets}) \\
 & = \boxed{-3} \quad \underline{\text{Ans}}
 \end{aligned}$$

$$\begin{aligned}
 & \textcircled{7.} \quad 36 - [18 - \{14 - (15 - 4 \div 2 \times 2)\}] \\
 & = 36 - [18 - \{14 - (15 - 2 \times 2)\}] \\
 & = 36 - [18 - \{14 - (15 - 4)\}] \quad (\text{removing parentheses}) \\
 & = 36 - [18 - \{14 - 11\}] \quad (\text{removing braces}) \\
 & = 36 - [18 - 3] \quad (\text{removing square brackets}) \\
 & = 36 - 15 \Rightarrow \boxed{21} \quad \underline{\text{Ans.}}
 \end{aligned}$$

$$\begin{aligned}
 & \textcircled{8.} \quad [60 \times (-3)] \div 45 \div (-2) \\
 & = [60 \times (-3)] \div \frac{45}{(-2)} \quad (\text{removing vinculum}) \\
 & = \frac{-180}{(-2)} \div 45 \quad (\text{removing square brackets}) \\
 & = \frac{-4}{180} \times \frac{(-2)}{45} \Rightarrow (-4) \times (-2) = \boxed{8} \quad \underline{\text{Ans}}
 \end{aligned}$$

$$\begin{aligned}
 & \textcircled{9.} \quad 10 + 4 - [3 - \{1 + 2 - (4 - 9)\}] \\
 & = 10 + 4 - [3 - \{1 + 2 - (-5)\}] \\
 & = 10 + 4 - [3 - \{1 + 2 + 5\}] \\
 & = 10 + 4 - [3 - 8] \\
 & = 10 + 4 - (-05) \Rightarrow 10 + 4 + 05 \Rightarrow \boxed{19} \quad \underline{\text{Ans}}
 \end{aligned}$$

$$\begin{aligned}
 (10.) & [ \{ (100 \div 50 - 6) \times 7 \} - 80 \div \{ 24 + (-4) \} ] \\
 & = [ \{ (2 - 6) \times 7 \} - 80 \div \{ 24 - 4 \} ] \\
 & = [ \{ (-4) \times 7 \} - 80 \div (20) ] \\
 & = [ -28 - 4 ] \Rightarrow \boxed{-32} \text{ Ans}
 \end{aligned}$$

$$\begin{aligned}
 (11.) & [ 64 + \{ 23 - (14 + 5 \times 12 \div 2 - 6) \} ] \\
 & = [ 64 + \{ 23 - (14 + 5 \times 6 - 6) \} ] \\
 & = [ 64 + \{ 23 - (14 + 30 - 6) \} ] \\
 & = [ 64 + \{ 23 - (44 - 6) \} ] \\
 & = [ 64 + \{ 23 - 38 \} ] \\
 & = [ 64 + (-15) ] \Rightarrow 64 - 15 = \boxed{49} \text{ Ans}
 \end{aligned}$$

$$\begin{aligned}
 (12.) & [ 12 - \{ 3 \times (45 \div (-9)) \} + 4 - (-32) + 7 ] \\
 & = [ 12 - \{ 3 \times (-5) \} + 4 + 32 + 7 ] \\
 & = [ 12 - (-15) + 4 + 32 + 7 ] \\
 & = 12 + 15 + 4 + 32 + 7 \Rightarrow \boxed{70} \text{ Ans}
 \end{aligned}$$

$$\begin{aligned}
 (13.) & -80 + 6 \times [ -3 \times 8 + 20 ] + 100 \\
 & = -80 + 6 \times [ -24 + 20 ] + 100 \\
 & = -80 + 6 \times (-4) + 100 \\
 \Rightarrow & -80 - 24 + 100 \\
 \Rightarrow & -104 + 100 \Rightarrow \boxed{-4} \text{ Ans}
 \end{aligned}$$

$$(14.) \quad 5\frac{1}{7} - \left\{ 3\frac{3}{10} \div \left( 2\frac{4}{5} - \frac{7}{10} \right) \right\}$$

$$\frac{36}{7} - \left\{ \frac{33}{10} \div \left( \frac{14}{5} - \frac{7}{10} \right) \right\}$$

$$\frac{36}{7} - \left\{ \frac{33}{10} \div \left( \frac{28-7}{10} \right) \right\}$$

$$\frac{36}{7} - \left\{ \frac{33}{10} \div \frac{21}{10} \right\}$$

$$\Rightarrow \frac{36}{7} - \left\{ \frac{33}{10} \times \frac{10}{21} \right\}$$

$$\Rightarrow \frac{36}{7} - \left( \frac{33}{21} \right) \Rightarrow \frac{36}{7} - \frac{11}{7}$$

$$\Rightarrow \frac{36-11}{7} \Rightarrow \frac{25}{7} \Rightarrow \boxed{3 \frac{4}{7}} \text{ Ans.}$$

$$(15.) \left( \frac{2}{3} + \frac{4}{9} \right) \text{ of } \frac{3}{5} \div 1 \frac{2}{3} \times 1 \frac{1}{4} - \frac{1}{3}$$

$$\left( \frac{6+4}{9} \right) \text{ of } \frac{3}{5} \div \frac{5}{3} \times \frac{5}{4} - \frac{1}{3}$$

$$\frac{10}{9} \times \frac{3}{5} \times \frac{3}{5} \times \frac{5}{4} - \frac{1}{3}$$

$$= \frac{1}{2} - \frac{1}{3} = \frac{3-2}{6} \Rightarrow \boxed{\frac{1}{6}} \text{ Ans.}$$