ODM EDUCATIONAL GROUP
Changing your Tomorrow

MONTH : NOVEMBER

SESSION : 8

CLASS : V

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 12

CHAPTER NAME : SIMPLIFICATION : BODMAS

SUB-TOPIC : ORDER OF OPERATION: BODMAS

EXERCISE 12 B Q. 1 TO 4

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

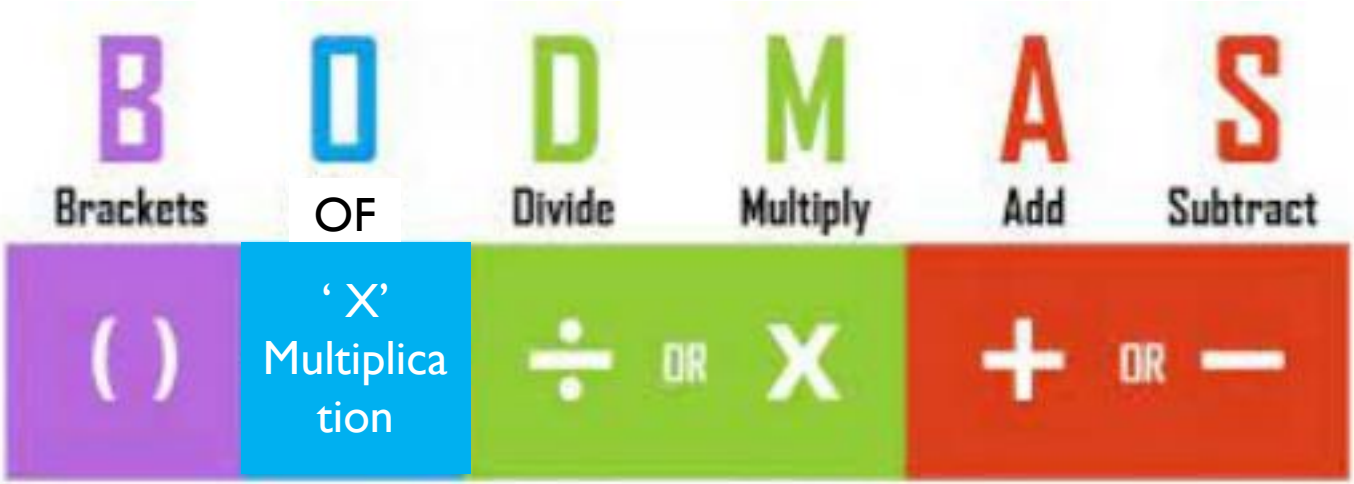
ODM EDUCATIONAL GROUP
Changing your Tomorrow

LEARNING OBJECTIVE :

Enable the students

- To know the use of BODMAS
- To calculate through organizing its operations.

ORDER OF OPERATION



If the word ‘OF’ is used in any expression it means we have to do the multiplication.

TYPES OF BRACKET

ODM EDUCATIONAL GROUP
Changing your Tomorrow

1. Bar bracket ———

2. Common bracket / Parentheses ( )

3. Curly bracket { }

4. Square bracket [ ]

Expression given within the bracket must be simplified first.

Rules to be followed

- 1st Remove the brackets by simplifying all the operations inside it.
- 2nd Perform operations involving 'OF'
- 3rd Follow D M A S rule.

Example: $25 - (19 + 8) \div \frac{1}{3}$ of 18 (bracket)

$= 25 - 27 \div \frac{1}{3}$ of 18 (Of)

$= 25 - 27 \div 6$ (Divide)

$= 25 - \frac{9}{2} = \frac{50 - 9}{2}$ (subtract)

$= \frac{41}{2}$

Rough

$\frac{1}{3} \times 18 = 6$

$\frac{27}{6} = \frac{9}{2}$

EXAMPLE: $92 \div [\ 18 + 4\{\ 6 + (\ 12 - \overline{10 + 1}\ )\ \}\ ]$

(Bar bracket 10 + 1 = 11)

$= 92 \div [\ 18 + 4\{\ 6 + (\ 12 - 11)\ \}\ ]$

(Common bracket 12 - 11 =1)

$= 92 \div [\ 18 + 4\{\ 6 + 1\ \}\ ]$

(Curly bracket 6 +1 = 7)

$= 92 \div [\ 18 + 4 \times 7\ ]$

Square bracket 18 + 4 x 7 = 18 + 28= 46

$= 92 \div 46$

=2

SIMPLIFICATION : BODMAS

EXERCISE 12 B

1. $8\frac{3}{5} - \left(6\frac{1}{2} - \overline{4\frac{1}{4} - 3\frac{3}{4}}\right)$

$= \frac{43}{5} - \left(\frac{13}{2} - \overline{\frac{17}{4} - \frac{15}{4}}\right)$

$= \frac{43}{5} - \left(\frac{13}{2} - \frac{2}{4}\right)$

$= \frac{43}{5} - \left(\frac{26-2}{4}\right)$

$= \frac{43}{5} - \frac{24}{4}^{6} = \frac{43}{5} - 6$

$= \frac{43-30}{5} = \frac{13}{5} = 2\frac{3}{5}$

SIMPLIFICATION : BODMAS

ODM EDUCATIONAL GROUP
Changing your Tomorrow

EXERCISE 12 B

2. $17\frac{1}{3} \div \{ 6\frac{2}{11} - (4 - 2\overline{\frac{3}{11} - 1}) \}$

$= \frac{52}{3} \div \{ \frac{68}{11} - (4 - \overline{\frac{25}{11} - 1}) \}$

$= \frac{52}{3} \div \{ \frac{68}{11} - (4 - \frac{14}{11}) \}$

$= \frac{52}{3} \div \{ \frac{68}{11} - (\frac{44 - 14}{11}) \}$ $= \frac{52}{3} \div \{ \frac{68}{11} - \frac{30}{11} \}$

$= \frac{50}{3} \div \frac{38}{11}$ $= \frac{\overset{26}{\cancel{52}}}{3} \times \frac{11}{\underset{19}{\cancel{38}}}$

$= \frac{26 \times 11}{3 \times 19}$ $= \frac{286}{57}$ $= \mathbf{5\frac{1}{57}}$

SIMPLIFICATION : BODMAS

ODM EDUCATIONAL GROUP
Changing your Tomorrow

EXERCISE 12 B

3. $3.2 \div \{ 1.8 + (3 \div 1.5 + 0.6 - 0.4)\}$

$= 3.2 \div \{ 1.8 + (3 \div 1.5 + 0.2)\}$

$= 3.2 \div \{ 1.8 + \cancel{(3 \div 1.5}\ + 0.2)\}$ (2)

$= 3.2 \div \{ 1.8 + (2 + 0.2)\}$

$= 3.2 \div \{ 1.8 + 2.2\}$

$= 3.2 \div 4 = \mathbf{0.8}$

EXERCISE 12 B

4. $8\frac{1}{4} + [\,4\frac{1}{2} + \{\,8\frac{1}{3} - (\,3\frac{1}{2} - \overline{6\frac{3}{4} - 5\frac{1}{2}}\,)\,\}\,]$

$= \frac{33}{4} + [\,\frac{9}{2} + \{\frac{25}{3} - (\frac{7}{2} - \overline{\frac{27}{4} - \frac{11}{2}})\,\}\,]$

$= \frac{33}{4} + [\,\frac{9}{2} + \{\frac{25}{3} - (\frac{7}{2} - \frac{27-22}{4})\,\}\,]$

$= \frac{33}{4} + [\,\frac{9}{2} + \{\frac{25}{3} - (\frac{7}{2} - \frac{5}{4})\,\}\,]$

$= \frac{33}{4} + [\,\frac{9}{2} + \{\frac{25}{3} - (\frac{14-5}{4})\,\}\,]$

$= \frac{33}{4} + [\,\frac{9}{2} + \{\frac{25}{3} - \frac{9}{4}\,\}\,]$

EXERCISE 12 B

$$= \frac{33}{4} + \left[\frac{9}{2} + \left\{ \frac{100 - 27}{12} \right\} \right]$$

$$= \frac{33}{4} + \left[\frac{9}{2} + \frac{73}{12} \right]$$

$$= \frac{33}{4} + \left[\frac{54+73}{12} \right]$$

$$= \frac{33}{4} + \frac{127}{12}$$

$$= \frac{99+127}{12} = \frac{226}{12} = 18\frac{5}{6}$$

113

6

ODM EDUCATIONAL GROUP
Changing your Tomorrow

5. $5\frac{3}{8} - [3\frac{3}{5} - \{1\frac{3}{8} - (\frac{3}{4} - \overline{\frac{1}{2} - \frac{1}{4}})\}]$

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

$= 5\frac{3}{8} - [3\frac{3}{5} - \{1\frac{3}{8} - \frac{2}{4}\}]$

$= 5\frac{3}{8} - [3\frac{3}{5} - \frac{7}{8}]$

$= 5\frac{3}{8} - [\frac{18}{5} - \frac{7}{8}]$

$= 5\frac{3}{8} - [\frac{18 \times 8 - 7 \times 5}{40}] = 5\frac{3}{8} + [\frac{144 - 35}{40}]$

$= 5\frac{3}{8} - \frac{109}{40} = \frac{43}{8} + \frac{109}{40} = \frac{43 \times 5 - 109}{40}$

$= \frac{215 - 109}{40} = \frac{106 \div 2}{40 \div 2} = \frac{53}{20} = 2\frac{13}{20}$

EXERCISE 12 B

ODM EDUCATIONAL GROUP
Changing your Tomorrow

7. $7.2 + [\ 0.2 \text{ of } 10 - \{\ 0.6 \div 0.3 - 0.8 - 0.6\ \}\ ]$

$= 7.2 + [\ 0.2 \text{ of } 10 - \{\ 0.6 \div 0.3 - 0.2\ \}\ ]$

$= 7.2 + [\ 0.2 \text{ of } 10 - \{\ \frac{0.6}{0.3} - 0.2\ \}\ ]$

$= 7.2 + [\ 0.2 \text{ of } 10 - \{\ 2 - 0.2\ \}\ ]$

$= 7.2 + [\ 0.2 \text{ of } 10 - 1.8\ ]$

$= 7.2 + [\ 0.2 \times 10 - 1.8\ ]$

$= 7.2 + [\ 2 - 1.8\ ]$

$= 7.2 + 0.2$

$= \mathbf{7.4}$

- **Complete exercise 12 B in the note book.**

ODM EDUCATIONAL GROUP
Changing your Tomorrow

Students are able to:

Calculate through organizing operations.

ODM EDUCATIONAL GROUP
Changing your Tomorrow

THANKING YOU

ODM EDUCATIONAL GROUP