

INTEGERS

Removal of Brackets

SUBJECT : MATHEMATICS
CHAPTER NUMBER: 01
CHAPTER NAME : INTEGERS

CHANGING YOUR TOMORROW

Learning outcome

Students will be able

- to calculate multiplication involving bigger integers.
- to simplify a series of arithmetic operations on integers quickly

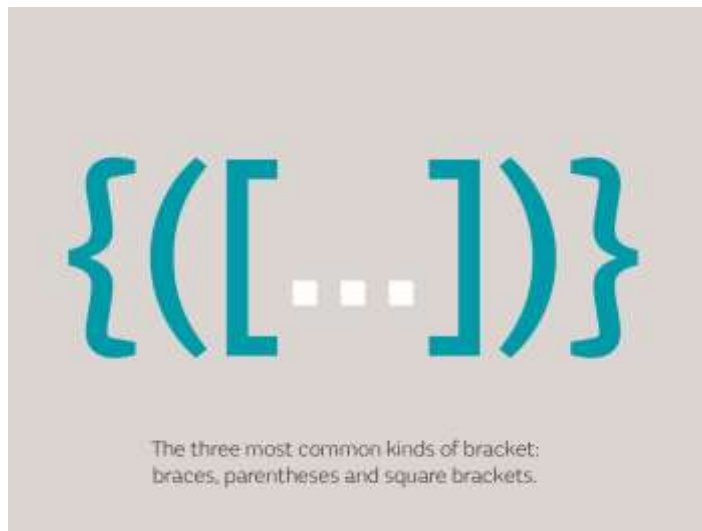


Previous knowledge test

- What does “DMAS ” mean ?
- Division , Multiplication , Addition , Subtraction

Video on removal of brackets

<https://www.youtube.com/watch?v=HTD0ntJI98k>

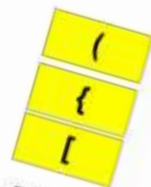


Ex 1 C

Q.No.3

$$\begin{aligned} & 35 - [15 + \{14 - (13 + 2 - 1 + 3)\}] \\ &= 35 - [15 + 14 - (13 + 4)] \\ &= 35 - [15 + 14 - (13 + 4)] \\ &= 35 - (15 + 14 - 17) \\ &= 35 - 15 - 14 + 17 \\ &= 35 + 17 - 15 - 14 \\ &= 52 - 29 \\ &= 23 \end{aligned}$$

[{()}]



Q.No. 4

$$\begin{aligned} & 27 - [13 + \{4 - (8 + 4 - \overline{1 + 3})\}] \\ & = 27 - [13 + \{4 - (8 + 4 - 4)\}] \\ & = 27 - [13 + \{4 - 8\}] \\ & = 27 - [13 + (-4)] \\ & = 27 - [9] \\ & = 27 - 9 \\ & = 18 \end{aligned}$$

Q.No.5

$$\begin{aligned} & 32 - [43 - \{51 - (20 - \overline{18 - 7})\}] \\ & = 32 - [43 - \{51 - (20 - 11)\}] \\ & = 32 - [43 - \{51 - 9\}] \\ & = 32 - [43 - 42] \\ & = 32 - 1 \\ & = 31 \end{aligned}$$

Q.No. 6

$$\begin{aligned} & 46 - [26 - \{14 - (15 - 4 \div 2 \times 2)\}] \\ & = 46 - [26 - \{14 - (15 - 2 \times 2)\}] \\ & = 46 - [26 - \{14 - (15 - 4)\}] \\ & = 46 - [26 - \{14 - 11\}] \\ & = 46 - [26 - 3] \\ & = 46 - 23 \\ & = 23 \end{aligned}$$

Q.No. 7

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

EX 1D

Q11. Evaluate:

(i) $(-20) + (-8) \div (-2) \times 3$

(ii) $(-5) - (-48) \div (-16) + (-2) \times 6$

Solution:

(i) $(-20) + (-8) \div (-2) \times 3$

It can be written as

$$= -20 + 4 \times 3$$

By further calculation

$$= -20 + 12$$

$$= -8$$

(ii) $(-5) - (-48) \div (-16) + (-2) \times 6$

It can be written as

$$= (-5) - 3 + (-2) \times 6$$

By further calculation

$$= -5 - 3 - 12$$

So we get

$$= -8 - 12$$

$$= -20$$

(iii) $16 + 8 \div 4 - 2 \times 3$

(iv) $16 \div 8 \times 4 - 2 \times 3$

iii) $16 + 8 \div 4 - 2 \times 3$

It can be written as

$$= 16 + 2 - 2 \times 3$$

By further calculation

$$= 16 + 2 - 6$$

So we get

$$= 18 - 6$$

$$= 12$$

(iv) $16 \div 8 \times 4 - 2 \times 3$

It can be written as

$$= 2 \times 4 - 2 \times 3$$

By further calculation

$$= 8 - 6$$

$$= 2$$

(v) $27 - [5 + \{28 - (29 - 7)\}]$

(vi) $48 - [18 - \{16 - (5 -)\}]$

v) $27 - [5 + \{28 - (29 - 7)\}]$

It can be written as

$$= 27 - [5 + \{28 - 22\}]$$

By further calculation

$$= 27 - [5 + 6]$$

So we get

$$= 27 - 11$$

$$= 16$$

(vi) $48 - [18 - \{16 - (5 -)\}]$

It can be written as

$$= 48 - [18 - \{16 - (5 - 5)\}]$$

By further calculation

$$= 48 - [18 - \{16 - 0\}]$$

So we get

$$= 48 - [18 - 16]$$

$$= 48 - 2$$

$$= 46$$

$$\text{(vii) } -8 - \{-6(9 - 11) + 18 \div -3\}$$

$$\text{(viii) } (24 \div -12) - (3 \times 8 \div 4 + 1)$$

vii) It can be written as

$$= -8 - \{-6(-2) - 6\}$$

By further calculation

$$= -8 - \{12 - 6\}$$

So we get

$$= -8 - 6$$

$$= -14$$

$$\text{(viii) } (24 \div -12) - (3 \times 8 \div 4 + 1)$$

It can be written as

$$= (24 \div 3 - 12) - (3 \times 2 + 1)$$

By further calculation

$$= (8 - 12) - (6 + 1)$$

So we get

$$= -4 - 7$$

$$= -11$$

H.W
Exercise 1C Q.No. 1, 2

i) $4 + (1/5) \{ -10 \times (25 - 13 - 3) \} \div (-5)$

ii) $[29 - (-2) \{ 6 - (7 - 3) \}] \div [3 \times \{ 5 + (-3) \times (-2) \}]$

THANKING YOU
ODM EDUCATIONAL GROUP