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"03402154132"

INTEGERS :

Integers are whole number that can be positive, Negative or Zero.

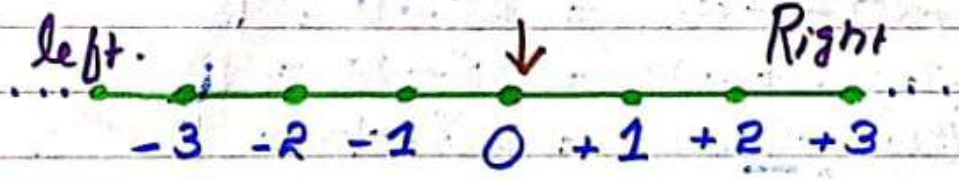
Points : 1) It is denoted by "Z"
2) positive integers denoted by Z^+
3) Negative integers denoted by Z^-
4) Zero is neither positive nor negative

$$Z = \{\pm 0, \pm 1, \pm 2, \pm 3 \ldots\}$$

Example

+
go 5 meter →
Back 5 meter ←
−

Line of Integers



✓. Every positive Z^+ is greater than Z^+
✓. Every Negative Z^- is less than Z^+

greater → >
less → <

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1. Addition of integers :-

(1) $(+3) + (+4) = 7$

(2) $(+3) + (+6) + (+2) = 11$

Rule

$-x- = +$

$+x+ = +$

(3) $(-4) + (-5) = -4 - 5 = -9$

(4) $(-10) + (-3) = -10 - 3 = -13$

$+x- = -$

$-x+ = -$

(5) $(+6) + (-4) = 6 - 4 = 2$

(6) $(-10) + (+5) = -10 + 5 = -5$

2. Subtraction of integers :-

(1) $(+3) - (+5) = +3 - 5 = -2$

(2) $(-3) - (-5) = -3 + 5 = +2$

(3) $(-10) - (-10) = -10 + 10 = 0$

(4) $(+25) - (+10) = 25 - 10 = 15$

(5) $(+30) - (+20) = 30 - 20 = 10$

(6) $(+20) - (+10) = +20 - 10 = 10$

Note

Zero multiplx. any number is Zero.

$1 \times 1 = 1$

$10 \times 0 = 0$

$0 \times 2 = 0$

$2 \times 0 = 0$

$100 \times 0 = 0$

3. Multiplication of integers :

[Rule 1]

"The product of two integers of like Signs is a positive."

Example

(i) $(+3) \times (+4) = +12$

(ii) $(-3) \times (-3) = +9$

(iii) $(+10) \times (+5) = +50$

(iv) $(+2) \times (+3) = +6$ ✓

Rule 2.

The product of two integers of unlike Signs is a negative integers

Example

(i) $(+10) \times (-5) = -50$

(ii) $(-5) \times (+2) = -10$

(iii) $(-16) \times (+1) = -16$ ✓

(iv) $(+7) \times (-5) = -35$ ✓

Note

Absolute value of any integers is positive

$|-5| = 5$ ✓

$|+5| = 5$

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3. Division of integers :-

(i) $20 \div (+2) = \frac{10}{20} \times \frac{1}{2} = +10$

$-\times-=+$

(ii) $(-18) \div (-3) = -18 \times -\frac{1}{3} \quad \frac{18}{3} = +6$

(iii) $(+10) \div (+2) = +\frac{5}{10} \times \frac{1}{2} = 5$

$20 \times \frac{2}{3} = \frac{40}{3}$ $20 \div \frac{3}{2}$

Rule 1 for integers of like signs the quotient is positive. (− −, + +)

3/4 (i) $(-2) \div (-\frac{5}{1}) = (+2) \times \frac{1}{(-5)} \quad \frac{1}{2} \quad \frac{3}{4} = 3/4$

(ii) $(+10) \div (+5) = +\frac{2}{10} \times \frac{1}{5} = +2$ (−)

3/3 Rule 2. for integers of unlike sign (+, −) the quotient is negative.

(iii) $(+10) \div (-5) = 10 \div -\frac{5}{1} = +\frac{2}{10} \times \frac{1}{-8} = -2$

(ii) $(-10) \div (+2) = -\frac{5}{10} \times \frac{1}{+2} \quad -5$

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Practice Sheet :-

⇒ ADD the following integers

(i) $(+2)+(+7)$ =
(ii) $(+5)+(+4)+(+6)$ =
(iii) $(-5)+(-5)$ =
(iv) $(-8)+(+2)$ =

⇒ Subtract the following integers

(i) $(+85)-(-15)$ =
(ii) $(-30)-(-25)$ =
(iii) $(-11)-(+5)$ =
(iv) $(+40)-(+30)$ =
(v) $(-16)-(-18)$ =

⇒ Multiply following integers

(i) $(+15)\times(-4)$ =
(2) $(20)\times(+17)$ =
(3) $(-16)\times(-25)$ =
(4) $(+43)\times(-16)$ =
(5) $(-36)\times(+12)$ =

⇒ "Division of integers"

(i) $+25\div-5$ =
(2) $(-35)\div(-7)$ =
(iii) $(-252)\div+4$ =
(iv) $(-234)\div+3)$ =
(v) $20\div-4$ =