Integers

3. Integers. Exercise - 3.1

Solution - 01:

(i) profit of ₹5000

(ii) 30 km west of delhi

(iii) 200 m below sea Level

(iv) 325 AD

(v) Earning ₹2700

(vi) 25°c below freezing point.

Solution - 02:

(i) + 3kg

(ii) +1340

(iii) -20°c

(iv) -₹470

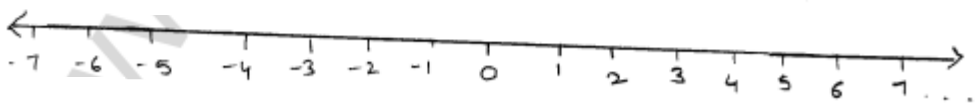
(v) + ₹2,500

(vi) - 240 m

(vii) + 9320m

(viii) -6 m.

Solution - 03:



Right on the number Line

(i) 5

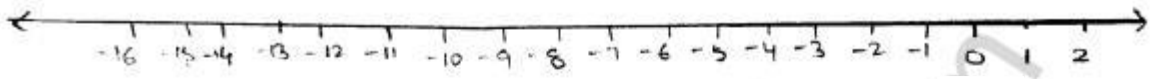
(ii) 0

(iii) -3

(iv) 2.

Solution -04:-

The number is to the Left of the other on the number Line



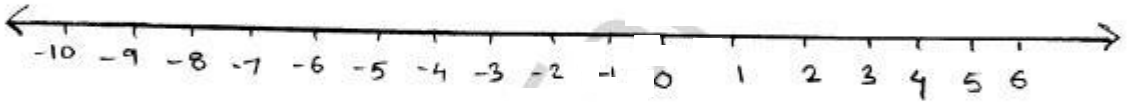
(i) -3

(ii) -5

(iii) -7

(iv) -16.

Solution-05:-



(i) numbers between -9 and -2

-3, -4, -5, -6, -7, -8

(ii) Largest number (-2)

(iii) Smallest number (-8).

Solution -06:-

four consecutive numintegers just greater than -9

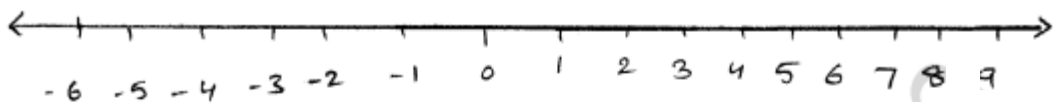
-8, -7, -6, -5.

Solution-07:-

four consecutive integers just before -2.

-6, -5, -4, -3

Solution -08:



(i) if we move 6 units to the right of -1 is '5'

(ii) if we move 7 units to the Left of 2 is '-5'

(iii) right

(iv) Left.

Solution -09:

(i) 4

(ii) -6

(iii) -5

(iv) -4.

Solution-10:

(i) $|13-5| = |8|$

$= 8$

(ii) $|5-13| = |-8|$

$= 8$

(iii) $|-11| + |9| = 11 + 9$

$= 20$

(iv) $|-8| + |-6| = 8 + 6$

$= 14$.

(v) $|7| - |-3| = 7 - 3$

$= 4$

(vi) $|-19| - |-13|$

$+19 - 13 = 6.$

Solution-11:

(i) <

(ii) >

(iii) >

(iv) <

(v) >

(vi) <

Solution-12:

(i) Ascending order

Small to Big

$-9, -5, 0, 2, 3.$

Solution-12 (ii)

Ascending order $-33, -31, -28, -4, -2, 9, 35.$

Solution-13 (i)

(i) descending order

$43, 25, 0, -5, -31, -37$

(ii) descending order

$95, 36, -3, -7, -8, -84, -101.$

Solution-14:

(i) False

(ii) True

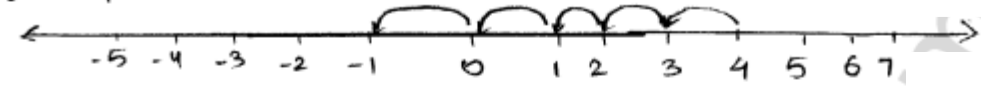
(iii) False

(iv) False

Exercise-3.2

Solution-01:

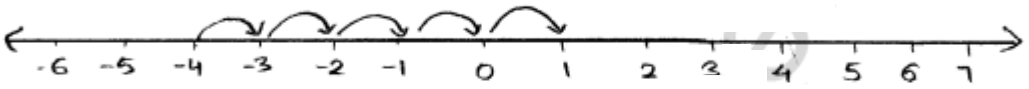
(i) $4+(-5)$ Move 5 units to the Left



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

$= -1$

(ii) $(-4)+(5)$ Move 5 units to the Right

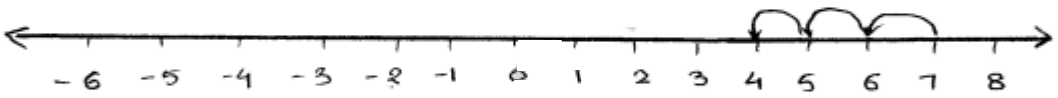


$(-4)+(5) = -4+5$

$= 5-4$

$= 1$

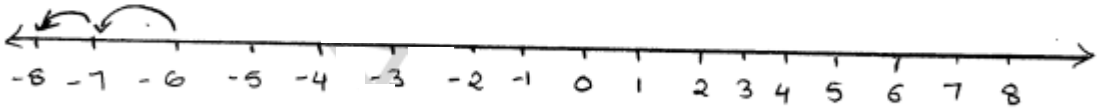
(iii) $7+(-3)$



Move 3 units to the Left

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

(iv) $-6+(-2)$



Move 2 units to the Left

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

$= -8.$

Solution-02:-

(i) $(-8)+(-14)$

As both integers are negative, so add their absolute values and give the negative sign to the

Sum obtained.

Now $(-8)+(-14)$

$|-8| = 8$ and $|-14| = 14$.

Adding their absolute values, we get $8+14 = 22$.

$\therefore (-8)+(-14) = -22$.

In practice, we write the solution as under:

$$(-8)+(-14) = -(8+14)$$
$$= -22.$$

(ii) $-35+(-47)$.

As both integers are negative, so add their absolute values and give the negative sign to the sum obtained

Now $-35 = |-35| = 35$

$-47 = |-47| = 47$.

Adding their absolute values, we get $35+47 = 82$.

$$(-35)+(-47) = -82.$$

In Practice, we write the solution as under

$$(-35)+(-47) = -(35+47)$$
$$= -82$$

(iii) $91+(-48)$

As two integers have different signs, so Subtract the smaller absolute value from the larger absolute value and give the sign of the integers which has larger absolute value.

Here $|-48| = 48$ and $|91| = 91$.

Subtract 91 from 48.

As the sign of the integer with larger absolute value is positive, so put positive sign before the result.

$\therefore 91 + (-48) = +(91-48)$

$= 43.$

In practice, we write the solution as under:

$91 + (-48) = 91 - 48 = 43.$

(iv) $(-203) + 501.$

Here, $|-203| = 203$ and $|501| = 501$

Subtract 203 from 501.

As the sign of the integer with larger absolute value is positive, so put positive sign before the result.

$(-203) + 501 = +(501-203) = 298.$

In practice, we write the solution as under:

$(-203) + 501 = 501 - 203 = +298 = 298.$

(v) $(-36) + 29.$

Here, $|-36| = 36$ and $|29| = 29.$

Subtract 36 from 29.

As the sign of integer with larger absolute value is ~~positive~~ negative sign before the result.

$(+36) + 29 = -36 + 29$

$= -7.$

In practice, we write the solution as under:

$-36 + 29 = -36 + 29$

$= -7.$

Solution 02 (vi):

Here, $|-131| = 131$ and $|97| = 97$

Subtract 131 from 97

As the sign of integer with larger absolute value is negative, so put negative sign before the result.

$\therefore (-131) + 97 = -(131 - 97) = -34.$

In practice, we write the solution as under:

$(-131) + 97 = -(+131 - 97) = -34.$

Solution-03:

(i) $(-8) + (-14)$.

Add 8 to 14 and put negative sign before the result.

$\therefore (-8) + (-14) = -(8 + 14) = -22.$

(ii) $-1083 + (-3974)$

Subtract Add 1083 to 3974 and put negative sign before the result.

$-1083 + (-3974) = -(1083 + 3974)$

$= -5057.$

(ii) 706 + (-394)

Subtract 394 from 706 and put positive sign before the result

$$706 + (-394) = 706 - 394 = 312.$$

(iii) 1309 + (-2811).

Subtract 2811 from 1309 and put negative sign before the result.

$$1309 + (-2811) = 1309 - 2811$$

$$= -1502$$

Solution - 04:-

(i) $-(-5) = +5$.

(ii) $-(-30) = +30$

(iii) $-[-(539)] = +539$.

Solution-05:

(i) -9 $[(-a)$ A.I $]$

(ii) 11 $[-(-a)$ (A.I$]$

(iii) 237 $[-(-a)$ A.I$]$

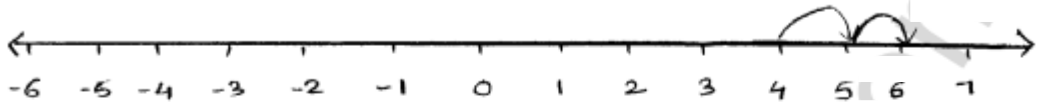
(iv) -567 $[(-a)$ A.I$]$.

Exercise - 3.3

Solution-01:-

(i) $4-(-2)$.

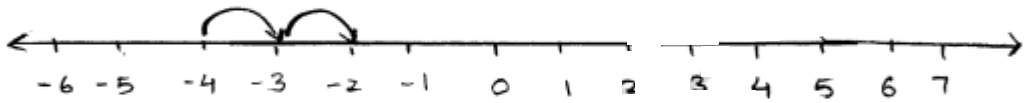
Start from 4 on the number Line



Move 2 units to the right. we reach at 6.

$\therefore 4-(-2) = 4+2 = 6.$

(ii) $-4-(-2)$



Start from -4 on the number Line

Move 2 units to the right, we reach at -2

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

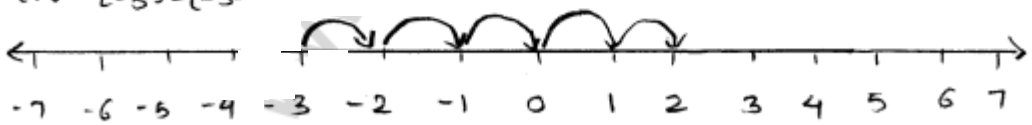
(iii) $3-6$.

Start from 3 on the number Line

Move 6 numbers units to the Left, we reach at -3.

$3-6 = -3.$

(iv) $(-3)-(-5)$



Start from -3 on the number Line

Move 5 units to the Right, we reach at '2'

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

Solution - 02.

(i) - 6 from 9

$$9 - (-6) = 9 + 6 = 15.$$

(ii) 6 from -9.

$$-9 - 6 = -(9 + 6)$$

$$= -15.$$

(iii) -6 from -9

$$-9 - (-6) = -9 + 6$$

$$= -(9 - 6)$$

$$= -3.$$

(iv) -725 from -63

$$-63 - (-725) = -63 + 725$$

$$= -(63 - 725)$$

$$= -(-662)$$

$$= 662.$$

(v) -376 from 10

$$10 - (-376) = 10 + 376$$

$$= 10 + 376$$

$$= 386$$

(vi) 92 from -620

$$-620 - 92 = -(620 + 92)$$

$$= -712.$$

Solution. 03

(i) $-237-(+1884)$

$-237-(+1884) = -237-1884$

$= -2121$

(ii) $-346-(-1275) = -346+1275$

$= 1275-346$

$= 929.$

(iii) $-190-(-3512) = -190+3512$

$= 3512-190$

$= 3322.$

(iv) $-2718-(+6827) = -2718-6827$

$= -9545.$

Solution -04:

other integer = sum of terms - the given number

$= 17-(-35)$

$= 52.$

Solution -05:-

other integer = sum of terms - the given number

$= -9-(-23)$

$= -9+23$

$= 23-9$

$= 14.$

Other number = 14

Solution-06:

predecessor of 0 = 0 - 1 = -1

Solution-07:

(i) -31.

Successor of -31 = -31 + 1 = -30

predessor of -31 = -31 - 1 = -32

(ii) -735

Successor of -735 = -735 + 1 = -736

predessor of -735 = -735 - 1 = -736.

(iii) -240.

Successor of -240 = -240 + 1 = -239.

predessor of -240 = -240 - 1 = -241.

Exercise- 3.4.

Solution-01

(i) $6-9+4 = (6-9)+4$

$= (-3)+4$

$= 4-3$

$= 1$

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

$= -5+3+2$

$= -5+5$

$= 0.$

(iii) $7+(-5)+(-6) = 7-5-6$

$= 2-6$

$= -4$

(iv) $6-3-(-5) = 6-3+5$

$= 3+5$

$= 8.$

Solution-02:

(i) $-77+(-84)+318 = -77-84+318$

$= -161+318$

$= 157$

(ii) $54+(-218)-(-76) = 54-218+76$

$= 54+76-218$

$= -88.$

(iii) $-121-(-78)+(-193)+576$.

$-121+78-193+576 = -121-193+78+576$

$= -314+654$

$= 340$.

(iv) $-65+(-76)-(-28)+32 = -65-76+28+32$

$= -65-76+60$

$= -65-16$

$= -81$

Solution -03:

(i) $8-6+(-2)-(-3)+1 = 2+(-2)-(-3)+1$

$= 2-2+3+1$

$= 0+4$

$= 4$

(ii) $31+(-23)-35+18-4-(-3)$.

$31-23-35+18-4+3 = 8-35+14+3$

$= 8-35+17$

$= 8-18$

$= -10$

Solution 04:

Rashmi balance on Monday = 4370

Rashmi balance in account on Tuesday = 4370 2875

= 1495.

Rashmi balance after deposit on next day

= 1495 + 1550 = ₹ 3,045