

Negative Numbers and Integers

EXERCISE 6

Question 1.

Fill in the blanks :

- (i) Negative of -20 is
- (ii) Negative of 0 is
- (iii) Negative of 8 is
- (iv) If 10 represents gain of ₹ 10, then -10 represents
- (v) If going south is negative then going north is
- (vi) Because $5 < 7$, therefore -5 -7. (vii) If $3 > -2$, then 3 is on the of -2.
- (viii) If $-8 < -6$, then -8 is on the of -6.

Solution:

- (i) 20
- (ii) 0
- (iii) -8
- (iv) loss of ₹ 10
- (v) positive
- (vi) less than
- (vii) right side
- (viii) left side

Question 2.

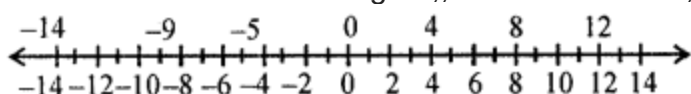
Use a number line to write the following integers in ascending (increasing) order :

- (i) -5, 8, 0, -9, 4, -14 and 12
- (ii) -6, 7, 0, -9, 5 and 9

Solution:

- (i) -5, 8, 0, -9, 4, -14 and 12

Draw a number line for integers,, as shown below, and mark on it all the given integers.

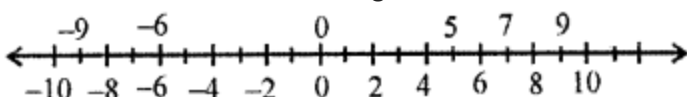


Clearly, the given integers in the ascending order are :

$$-14 < -9 < -5 < 0 < 4 < 8 < 12$$

- (ii) -6, 7, 0, -9, 5 and 9

Draw a number line for integers, as shown below, and mark on it all the given integers.



Clearly, the given integers in the ascending order are :

$$-9 < -6 < 0 < 5 < 7 < 9$$

Question 3.

Use a number line to write the following integers in descending (decreasing) order :

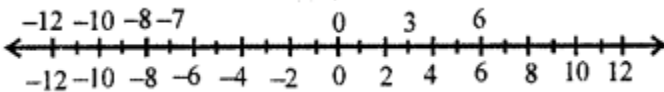
- (i) -10, 0, 3, -4, 12, 11, -1 and 5

(ii) -4, 3, -8, -12, -7 and 6.

Solution:

(i) -10, 0, 3, -4, 12, 11, -1 and 5

Draw a number line for integers, as shown below, and mark on it all the given integers.

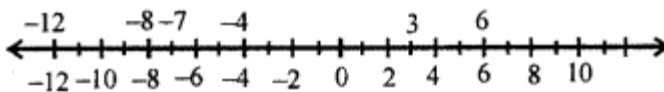


Clearly, the given integers in the descending order are :

$$6 > 3 > 0 > -7 > -8 > -10 > -12$$

(ii) -4, 3, -8, -12, -7 and 6.

Draw a number line for integers, as shown below, and mark on it all the given integers.



Clearly, the given integers in the descending order are :

$$6 > 3 > -4 > -7 > -8 > -12$$

Question 4.

Add:

(i) 13 and 15

(ii) -13 and 15

(iii) 13 and -15

(iv) -13 and -15

Solution:

(i) 13 and 15

$$13 + 15 = 28$$

(ii) -13 and 15

$$(-13) + 15 = 2$$

(iii) 13 and -15

$$= (13) + (-15)$$

$$= 13 - 15 = -2$$

(iv) -13 and -15

$$= (-13) + (-15)$$

$$= -13 - 15 = -28$$

Question 5.

Add:

(i) 259 from 214

(ii) -528 and -243

(iii) -623 and 326

(iv) 258 and -473

(v) -622 and -254

(vi) 257 and -254

Solution:

(i) 259 from 214

$$= 259 + 214 = 473$$

(ii) -528 and -243

$$= -528 + (-243)$$

$$= -528 - 243$$

$$= -771$$

(iii) -623 and 326

$$= -623 + 326 = -297$$

(iv) 258 and —473

$$= 258 + (-473)$$

$$= 258 - 473$$

$$= -215$$

(v) -622 and -254

$$= -622 + (-254)$$

$$= -622 - 254$$

$$= -876$$

(vi) 257 and -254

$$= 257 + (-254)$$

$$= 257 - 254$$

$$= 3$$

Question 6.

Subtract :

(i) 5 from 8

(ii) -5 from 8

(iii) 4 from -7

(iv) -8 from -2

(v) -3 from 12

(vi) -6 from -3

Solution:

(i) 5 from 8

$$= 8 - 5 = 3$$

(ii) -5 from 8

$$= 8 - (-5)$$

$$= 8 + 5 = 13$$

(ii) 4 from -7

$$= -7 - 4$$

$$= -11$$

(iv) -8 from -2 = $-2 - (-8)$

$$= -2 + 8$$

$$= 6$$

(v) -3 from 12

$$= -12 - 3 = -15$$

(vi) -6 from -3

$$= -3 - 3 (-6)$$

$$= -3 + 6 = +3$$

Question 7.

Subtract:

- (i) -123 from 453
- (ii) -78 from -12
- (iii) 329 and -124
- (iv) -222 from 0

Solution:

- (i) -123 from 453
 $= + 453 - (-123)$
 $= 453 + 123 = 576$
- (ii) -78 from -12
 $= -12 - (-78)$
 $= -12 + 78 = 66$
- (iii) 329 and -124
 $= + 329 - 124 = 205$
- (iv) -222 from 0
 $= 0 - (-222)$
 $= 0 + 222 = 222$

Question 8.

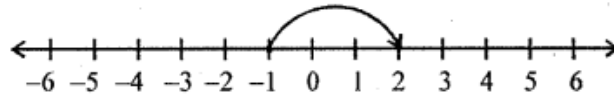
Using a number line, find the integer which is :

- (i) 3 more than -1
- (ii) 5 less than 2
- (iii) 5 more than -9
- (iv) 4 less than -4
- (v) 7 more than 0
- (vi) 7 less than -8

Solution:

- (i) 3 more than -1

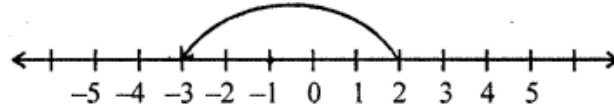
To get 3 more than -1 , start from -1 and then move 3 units to the right of -1 to get 2.



$\therefore$ 3 more than -1 is 2 Ans.

- (ii) 5 less than 2

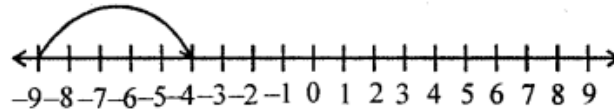
To get 5 less than 2, start from 2 and then move 5 units to the left of 2 to get -3 .



$\therefore$ 5 less than 2 is -3 Ans.

- (iii) 5 more than -9

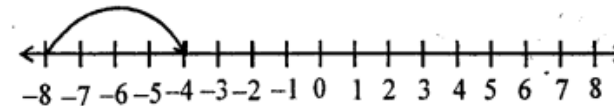
To get 5 more than -9 , start from -9 and then move 5 units to the right of -9 to get -4 .



$\therefore$ 5 more than -9 is -4 Ans.

- (iv) 4 less than -4

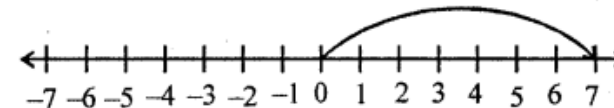
To get 4 less than -4 , start from -4 and then move 4 units to the left of -4 to get -8 .



$\therefore$ 4 less than -4 is -8 Ans.

- (v) 7 more than 0

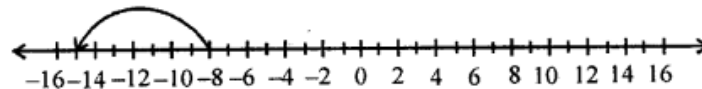
To get 7 more than 0, start from 0 and then move 7 units to the right of 0 to get 7.



$\therefore$ 7 more than 0 is 7 Ans.

- (vi) 7 less than -8

To get 7 less than -8 , start from -8 and then move 7 units to the left of -8 to get -15 .



$\therefore$ 7 less than -8 is -15 Ans.