

Unit 3 (Integers)

Multiple Choice Questions (MGQs)

Question 1:

Every integer less than 0 has the sign

- (a) + (b) –
(c) x (d) +

Solution:

(b) Every integer less than 0 has the negative (-) sign.

Note: An integer is positive, if it is greater than zero and negative, if it is less than zero.

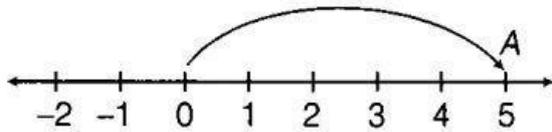
Question 2:

The integer '5 units to the right of 0 on the number line' is

- (a) + 5 (b) -5
(c) + 4 (d) – 4

Solution:

(a) Firstly, draw a number line and mark some points at equal distance on it. Mark a point as zero on it. On moving 5 units to the right of 0, we reach on + 5.



Hence, point/4 represents +5.

Note All the positive integers lie to the right of 0 and the negative integers to the left of 0 on the number line.

Question 3:

The predecessor of the integer -1 is

- (a) 0 (b) 2
(c) -2 (d) 1

Solution:

(c) We know that, one less than a given number, gives a predecessor. Predecessor of the integer -1 = $-1 - 1 = -2$ Hence, predecessor of the integer -1 is -2.

Question 4:

Number of integers lying between -1 and 1 is

- (a) 1 (b) 2
(c) 3 (d) 0

Solution:

(a) The integers lying between -1 and 1 is 0, so there is only one integer.

Question 5:

Number of whole numbers lying between -5 and 5 is

- (a) 10 (b) 3 (c) 4 (d) 5

Solution:

(d) The integers lying between -5 and 5 are -4, -3, -2, -1, 0, 1, 2, 3 and 4.

Whole numbers are 0, 1, 2, 3 and 4.

The number of whole numbers = 5 [whole numbers are the group of numbers that consist of the numbers i.e. 0, 1, 2, 3, 4, 5, ...]

Question 6:

The greatest integer lying between -10 and -15 is

- (a) -10 (b) -11 (c) -15 (d) -14

Solution:

(b) The integers lying between -10 and -15 are -11, -12, -13 and -14.

The greatest integer among these is -11.

with negative sign, smaller number is greater

Question 7:

The least integer lying between -10 and -15 is

- (a) -10 (b) -11 (c) -15 (d) -14

Solution:

(d) The integers lying between -10 and -15 are -11, -12, -13 and -14.

The least integer among these is -14. [-. -with negative sign, greater number is smaller]

Question 8:

On the number line, the integer 5 is located

- (a) to the left of 0 (b) to the right of 0
(c) to the left of 1 (d) to the left of -2

Solution:

(b) We know that, all the positive integers lie on the right of 0.

So, integer 5 is also located to the right of 0.

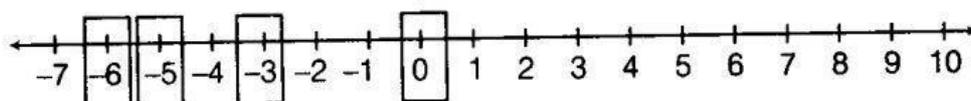
Question 9:

In which of the following pairs of integers, the first integer is not on the left of the other integer on the number line?

- (a) (-1, 10) (b) (-3, -5)
(c) (-5, -3) (d) (-6, 0)

Solution:

(b) Firstly, draw a number line and mark all the given pairs of integers on it.



Clearly, we observe that -3 is on the right of -5.

Question 10:

The integer with negative sign (-) is always less than

- (a) 0 (b) -3 (c) -1 (d) -2

Solution:

(a) We know that, negative integer is always less than 0.

Question 11:

An integer with positive sign (+) is always greater than

- (a) 0 (b) 1
(c) 2 (d) 3

Solution:

(a) We know that, positive integer is always greater than 0.

Question 12: The successor of the predecessor of -50 is

- (a) -48 (b) -49 (c) -50 (d) -51 .

Solution: (c) For predecessor, we subtract 1 from the given integer and for successor, we add 1 to the given integer.

The predecessor of -50 = $-50 - 1 = -51$ and the successor of -51 = $-51 + 1 = -50$

Question 13:

The additive inverse of a negative integer

- (a) is always negative (b) is always positive
(c) is the same integer (d) zero

Solution:

(b) Additive inverse of an integer is obtained by changing the sign of the integer.

Therefore, the additive inverse of a negative integer is always positive.

Let a negative integer be -5. Then, additive inverse of -5 = $-(-5) = 5$

Question 14:

Amulya and Amar visited two places A and B, respectively in Kashmir and recorded the minimum temperatures on a particular day as -4°C at A and -1°C at B. Which of the following statements is true?

- (a) A is cooler than B
(b) B is cooler than A
(c) There is a difference of 2°C in the temperature
(d) The temperature at A is 4°C higher than that at B

Solution:

(a) We know that, if the temperature decreases, the cooling increases.

Given, minimum temperature on a particular at A = -4°C and minimum temperature on a particular at B = -1°C We know that, $-4^{\circ}\text{C} < -1^{\circ}\text{C}$ So, A is cooler than B.

Hence, option (a) is true.

Question 15:

When a negative integer is subtracted from another negative integer, the sign of the result

- (a) is always negative
(b) is always positive
(c) is never negative
(d) depends on the numerical value of the integers

Solution:

(d) Suppose we take two negative integers -2 and -3.

We subtract (-3) from (-2) and give a minus sign to get the result.

$$\text{i.e } -2 - (-3) = -2 + 3 = 1$$

Again, we subtract (-2) from -3 and give a plus sign to get the result.

$$\text{i.e } -3 - (-2) = -3 + 2 = -1$$

So, the sign of the result depends on the numerical value of the integers.

Question 16:

The statement "When an integer is added to itself, the sum is greater than the integer" is

- (a) always true
- (b) never true
- (c) true only when the integer is positive
- (d) true for non-negative integers

Solution:

(c) Suppose we take two integers one positive (+1) and other negative -1.

On adding 1 to itself, we get

$$1 + 1 = 2$$

Here, the sum is greater than the integer (+1).

Again, adding -1 to itself, we get

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

Here, the sum is less than the integer -1.

Hence, the given statement is true only when the integer is positive.

Question 17:

Which of the following shows the maximum rise in temperature?

- (a) 0°C to 10°C
- (b) -4°C to 8°C
- (c) -15°C to -8°C
- (d) -7°C to 0°C

Solution:

(b) We know that, the maximum rise in the temperature is equal to the maximum value of difference of two temperatures.

(a) Difference of 0°C to 10°C = $10^{\circ}\text{C} - 0^{\circ}\text{C} = +10^{\circ}\text{C}$

(b) Difference of -4°C to 8°C = $8^{\circ}\text{C} - (-4^{\circ}\text{C}) = 8^{\circ}\text{C} + 4^{\circ}\text{C} = +12^{\circ}\text{C}$ [maximum]

(c) Difference of -15°C to -8°C = $-8^{\circ}\text{C} - (-15^{\circ}\text{C}) = -8^{\circ}\text{C} + 15^{\circ}\text{C} = +7^{\circ}\text{C}$

(d) Difference of -7°C to 0°C = $0^{\circ}\text{C} - (-7^{\circ}\text{C}) = 0^{\circ}\text{C} + 7^{\circ}\text{C} = +7^{\circ}\text{C}$ Hence, the option (b) shows the maximum rise in temperature.

True / False

In questions 18 to 39, state whether the given statements are True or False.

Question 18:

The smallest natural number is zero.

Solution:

False

We know that, positive integers are called natural numbers and smallest positive integer is 1.

Question 19:

Zero is not an integer as it is neither positive nor negative.

Solution:

False

Zero is the only integer, which is neither positive nor negative.

Question 20:

The sum of all the integers between -5 and -1 is -6.

Solution:

False

The integers between -5 and -1 are -4, -3 and -2.

$$\text{Required sum} = (-4) + (-3) + (-2) = -(4 + 3 + 2) = -4 - 3 - 2 = -9$$

Question 21:

The successor of integer 1 is 0.

Solution:

False

We know that, for successor, we add 1 to the given integer.

The successor of 1 = $1 + 1 = 2$

Question 22:

Every positive integer is Larger than every negative integer.

Solution:

True

Positive integers are always larger than every negative integer.

Question 23:

The sum of any two negative integers is always greater than both the integers.

Solution:

False

e.g. Let two negative integers be -5 and -10.

Sum of -5 and $-10 = -5 + (-10) = -5 - 10 = -15$ Now, $-15 < -5$ and $-15 < -10$

Question 24:

The sum of any two negative integers is always smaller than both the integers.

Solution:

True

e.g. Let two negative integers be -11 and -13.

Sum of -11 and -13 = $-11 + (-13) = -11 - 13 = -24$ Now, $-24 < -11$ and $-24 < -13$.

Question 25:

The sum of any two positive integers is greater than both the integers.

Solution:

True

e.g. Let two positive integers be 8 and 13.

Sum of 8 and 13 = $8 + 13 = 21$ Now, $21 > 8$ and $21 > 13$

Question 26:

All whole numbers are integers.

Solution:

True

As we know, the collection of whole numbers and the opposite of natural numbers form the set of integers.

Question 27:

All integers are whole numbers.

Solution:

False

Because integers are the collection of all whole numbers and opposite of natural numbers.

Question 28:

Since $5 > 3$, therefore $-5 > -3$

Solution:

False

If $5 > 3$, then $-5 < -3$. Because, further a number from zero on the left, smaller is its value.

Question 29:

Zero is less than every positive integer.

Solution:

True

Zero is less than every positive integer and greater than every negative integer.

Question 30:

Zero is larger than every negative integer.

Solution:

True

Zero is greater than every negative integer.

Question 31:

Zero is neither positive nor negative.

Solution:

True

Zero is neither positive nor negative.

Question 32:

On the number line, an integer on the right of a given integer is always larger than the integer.

Solution:

True

Because further a number from zero on the right.

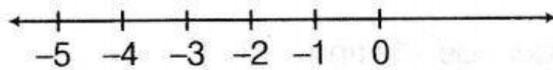
Question 33:

-2 is to the left of -5 on the number line.

Solution:

False

Firstly, we draw a number line and mark some points at equal distance on it. Mark a point as zero on it. On moving 5 units to the left of 0, we reach on -5.



Clearly, -2 is to the right of -5.

Question 34:

The smallest integer is 0.

Solution:

False

As we know that, all negative integers are less than 0. Therefore, zero is not the smallest integer.

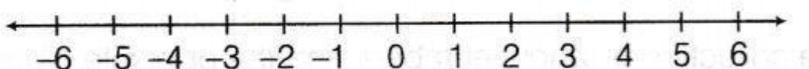
Question 35:

6 and -6 are at the same distance from 0 on the number line.

Solution:

True

Firstly, we draw a number line.



Clearly, we can see that 6 and -6 are at the same distance of 6 units from 0.

Question 36:

The difference between an integer and its additive inverse is always even.

Solution:

True

e.g. Let an integer be 2 and additive inverse of 2 is -2.

Now, difference between 2 and -2 = $2 - (-2) = 2 + 2 = 4$

Question 37:

The sum of an integer and its additive inverse is always zero.

Solution:

True

e.g. Let an integer be 3 and additive inverse of 3 is -3.

Now, sum of 3 and -3 = $3 + (-3) = 3 - 3 = 0$

Question 38:

The sum of two negative integers is a positive integer.

Solution:

False

e.g. Let two negative integers be -2 and -6.

Now, sum of -2 and -6 = $-2 + (-6) = -2 - 6 = -8$

Question 39:

The sum of three different integers can never be zero.

Solution:

False

e.g. Let the three integers be 2, 3 and -5.

Sum of 2,3 and -5 = $2 + 3 + (-5)$

= $2 + 3 - 5$

= $5 - 5 = 0$

Clearly, the sum of three different integers can be zero.

Fill in the Blanks

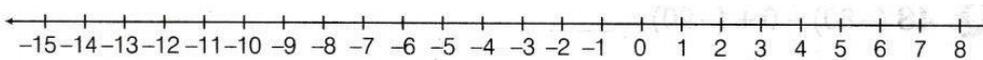
In questions 40 to 49, fill in the blanks to make the statements true.

Question 40:

On the number line, -15 is to the of zero.

Solution:

Left



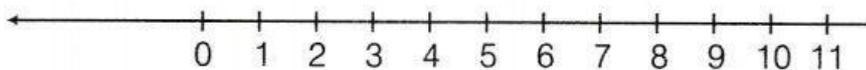
Clearly, on the number line, -15 is to the left of zero.

Question 41:

On the number line, 10 is to the of zero.

Solution:

Right



Clearly, on the number line, 10 is to the right of zero.

Question 42:

The additive inverse of 14 is

Solution:

-14

We know that, additive inverse of an integer is obtained by changing the sign of the integer.

∴ The additive inverse of 14 is -14.

Question 43:

The additive inverse of -1 is

Solution:

1

The additive inverse of -1 is 1.

Question 44:

The additive inverse of 0 is

Solution:

0

We know that, additive inverse of an integer is obtained by changing the sign of the integer.

But 0 is neither positive nor negative.

Question 45:

The number of integers lying between -5 and 5 is

Solution:

9

The integers lying between -5 and 5 are -4, -3, -2, -1, 0, 1, 2, 3 and 4.

The number of integers lying between -5 and 5 is 9.

Question 46:

$(-11) + (-2) + (-1) = \dots\dots\dots$

Solution:

-14

$$(-11) + (-2) + (-1) = -11 - 2 - 1 = -(11 + 2 + 1)$$

$$= -14$$

Note: For adding integers with like signs, we add their numerical values and place the common sign before the sum.

Question 47:

$\dots\dots\dots + (-11) + 111 = 130$

Solution:

30

Let x be the missing number, then

$$x + (-11) + 111 = 130 \Rightarrow x - 11 + 111 = 130$$

$$x = 130 - 111 + 11 = 30$$

Question 48:

$(-80) + 0 + (-90) = \dots\dots\dots$

Solution:

-170

We have, $(-80) + 0 + (-90) = -80 + 0 - 90$

$$= -(80 + 90) = -170.$$

Question 49:

$\dots\dots\dots - 3456 = -8910$

Solution:

-5454

Let x be the missing number, then $x - 3456 = -8910$

$$\Rightarrow x = -8910 + 3456 = -5454$$

In questions 50 to 58, fill in the blanks using '<', '=' or '>'

Question 50:

$$(-11) + (-15) \dots\dots\dots 11 + 15$$

Solution:

"<"

$$\text{LHS} = (-11) + (-15) = -11 - 15 = -(11 + 15) = -26 \quad \text{RHS} = 11 + 15 = 26$$

On comparing LHS and RHS, we observe that $-26 < 26$.

Question 51:

$$(-71) + (+9) \dots\dots\dots (-81) + (-9)$$

Solution:

">"

$$\text{LHS} = (-71) + (+9) = -71 + 9 = -62 \quad \text{RHS} = (-81) + (-9) = -81 - 9 = -90$$

On comparing LHS and RHS, we observe that $-62 > -90$.

Question 52:

$$0 \dots\dots\dots 1$$

Solution:

"<"

Clearly, 0 is less than 1, i.e. 1 is greater than 0.

Note All positive integers are greater than zero.

Question 53:

$$-60 \dots\dots\dots 50$$

Solution:

"<"

We know that, a negative integer is always less than a positive integer.

Question 54:

$$-10 \dots\dots\dots -11$$

Solution:

">"

Because, on a number line, if we move to the left of zero, then smaller numerical values are greater than larger numerical values.

Question 55:

$$-101 \dots\dots\dots -102$$

Solution:

">"

Because on a number line, if we move to the left of zero, then smaller numerical values are greater than larger numerical values.

Question 56:

$$(-2) + (-5) + (-6) \dots\dots\dots (-3) + (-4) + (-6)$$

Solution:

"="

$$\text{LHS} = (-2) + (-5) + (-6) = -2 - 5 - 6 = -(2 + 5 + 6) = -13 \quad \text{RHS} = (-3) + (-4) + (-6) = -3 - 4 -$$

$6 = -(3 + 4 + 6) = -13$ On comparing LHS and RHS, we observe that $-13 = -13$.

Question 57:

0 2

Solution:

"<"

We know that, all positive integers are greater than 0.

So, 0 is less than 2.

Question 58:

$1 + 2 + 3 \dots (-1) + (-2) + (-3)$

Solution:

'>'

LHS = $1 + 2 + 3 = 6$

RHS = $(-1) + (-2) + (-3) = -1 - 2 - 3 = -(1 + 2 + 3) = -6$ On comparing LHS and RHS, we observe that $6 > -6$.

Question 59:

Match the items of Column I with that of Column II.

Column I		Column II	
(i)	The additive inverse of +2	(a)	0
(ii)	The greatest negative integer	(b)	-2
(iii)	The greatest negative even integer	(c)	2
(iv)	The smallest integer greater than every negative integer	(d)	1
(v)	Sum of predecessor and successor of -1	(e)	-1

Solution:

(i) The additive inverse of + 2 is - 2.

(ii) The greatest negative integer is - 1.

(iii) The greatest negative even integer is - 2.

(iv) The smallest integer greater than every negative integer is 0.

(v) Sum of predecessor and successor of -1 is - 2 .

Since, predecessor of $-1 = -1 - 1 = -2$

(a) $30 + (-25) + (-10)$

(b) $(-20) + (-5)$

(c) $70 + (-20) + (-30)$

(d) $-50 + (-60) + 50$

(e) $1 + (-2) + (-3) + (-4)$

(f) $0 + (-5) + (-2)$

(g) $0 - (-6) - (+6)$

(h) $0 - 2 - (-2)$

and successor of $-1 = -1 + 1 = 0$ Now, sum of - 2 and 0 = $-2 + 0 = -2$

Hence, the correct matching is

(i) -> b (ii) -> e (iii) -> b

(iv) -> a (v) -> b

Question 60:

Compute each of the following:

Solution:

According to the results of addition and subtraction of integers, we have

- (a) $30 + (-25) + (-10) = 30 - 25 - 10 = 30 - (25 + 10)$
 $= 30 - 35 = -5$
- (b) $(-20) + (-5) = -20 - 5 = -(20 + 5) = -25$
- (c) $70 + (-20) + (-30) = 70 - 20 - 30 = 70 - (20 + 30)$
 $= 70 - 50 = 20$
- (d) $-50 + (-60) + 50 = -50 - 60 + 50 = -(50 + 60) + 50$
 $= -110 + 50 = -60$
- (e) $1 + (-2) + (-3) + (-4) = 1 - 2 - 3 - 4 = 1 - (2 + 3 + 4)$
 $= 1 - 9 = -8$
- (f) $0 + (-5) + (-2) = 0 - 5 - 2 = 0 - (5 + 2)$
 $= 0 - 7 = -7$
- (g) $0 - (-6) - (+6) = 6 - 6 = 0$
- (h) $0 - 2 - (-2) = 0 - 2 + 2 = -2 + 2 = 0$

Question 61:

If we denote the height of a place above sea level by a positive integer and depth below the sea level by a negative integer, then write the following using integers with the appropriate sign:

- (a) 200 m above sea level (b) 100 m below sea level
 (c) 10 m above sea level (d) Sea level

Solution:

Given, the height of a place above sea level is denoted by positive (+) sign and depth below the sea level is denoted by negative (-) sign.

- (a) 200 m above sea level = + 200 m
 (b) 100 m below sea level = -100 m
 (c) 10 m above sea level = + 10 m
 (d) Sea level = 0

Question 62:

Write the opposite to each of the following:

- (a) Decrease in size.
 (b) Failure.
 (c) Profit of ₹10.
 (d) 1000 AD.
 (e) Rise in water level.
 (f) 60 km South.
 (g) 10 m above the danger mark of river Ganga.
 (h) 20 m below the danger mark of the river Brahmaputra.
 (i) Winning by a margin of 2000 votes.
 (j) Depositing ₹100 in the bank account.
 (k) 20°C rise in temperature.

Solution:

- (a) Increase in size.
 (b) Success.
 (c) Loss of ₹10.
 (d) 1000 BC.
 (e) Fall in water level.
 (f) 60 km North.
 (g) 10 m below the danger mark of river Ganga.
 (h) 20 m above the danger mark of the river Brahmaputra.
 (i) Losing by a margin of 2000 votes.
 (j) Withdrawing ₹100 from the bank account.

(k) 20°C fall in temperature.

Question 63:

Temperature of a place at 12:00 noon was $+5^{\circ}\text{C}$. Temperature increased by 3°C in first hour and decreased by 1°C in the second hour. What was the temperature at 2:00 pm?

Solution:

Temperature at 12:00 noon = $+5^{\circ}\text{C}$

It is given that temperature increased by 3°C in first hour.

So, temperature at 1:00 pm = $5^{\circ}\text{C} + 3^{\circ}\text{C} = 8^{\circ}\text{C}$ Also, temperature decreased by 1°C in second hour.

So, the temperature at 2:00 pm = $8^{\circ}\text{C} - 1^{\circ}\text{C} = 7^{\circ}\text{C}$ Hence, the temperature at 2:00 pm is 7°C .

Question 64:

Write the digits 0, 1, 2, 3, ,9 in this order and insert V or between them to get the result 3.

Solution:

Given digits are 0,1,2, 3, 4, 5, 6, 7, 8 and 9.

To get sum 3,

$$\begin{aligned} 0+1 + 2+ 3- 4+ 5+ 6+ 7- 8- 9 &= 1 + 2 + 3+ 5+ 6+ 7-(4+8+9) \\ &= 24-21=3 \end{aligned}$$

Question 65:

Write the integer which is its own additive inverse.

Solution:

Zero (0) is its own additive inverse, i.e. $0 \times (-1) = 0$.

Question 66:

Write six distinct integers whose sum is 7.

Solution:

Let the six distinct integers be 1,2, -2 , 3, -3 and 6.

Now, sum of the above six distinct integers = $1 + 2 + (-2) + 3 + (-3) + 6$

We can arrange the numbers, so that the positive integers and negative integers are grouped together.

We have, $1 + 2 + 3 + 6 + (-2) + (-3)$

$$= 12 - 2 - 3 = 12 - 5 = 7 \text{ Hence, the required integers are } 1, 2, -2, 3, -3 \text{ and } 6.$$

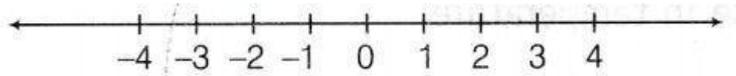
Note There are infinite combinations exist.

Question 67:

Write the integer which is 4 more than its additive inverse.

Solution:

Firstly, draw a number line.



Let +1 be an integer and its additive inverse is -1. From the number line, we see that +1 is 2 more than its additive inverse. So, we reject this integer.

Again, let +2 be an integer and its additive inverse is -2 . From the number line, we see that +2 is 4 more than its additive inverse.

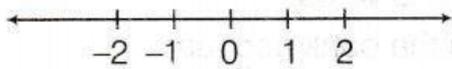
Hence, the required integer is 2.

Question 68:

Write the integer which is 2 less than its additive inverse.

Solution:

Firstly, draw a number line.



Let -1 be an integer and its additive inverse is +1.

From the number line, we see that -1 is 2 less than its additive inverse.

Hence, the required integer is -1.

Question 69:

Write two integers whose sum is less than both the integers.

Solution:

For the required integers, we can take any two negative integers.

Let -5 and -7 be two negative integers.

$(-5)+(-7)=-5-7=-12$ Clearly, -12 is less than both -5 and -7.

Note Any two negative integers can be taken.

Question 70:

Write two distinct integers whose sum is equal to one of the integers.

Solution:

On adding 0 (zero) to any other integer, we get the sum equal to that integer.

Let 3 and 0 be two distinct integers, then $3 + 0 = 3$.

Question 71:

Using number line, how do you compare

- (a) two negative integers?
- (b) two positive integers?
- (c) one positive and one negative integers?

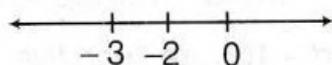
Solution:

We know that, on the number line, points to the right of zero are positive integers and points to the left of zero are negative integers.

Also, if move from left to the right on the number line, then number increases and if we move from right to the left on the number line, then number decreases.

(a) If we compare two negative integers on the number line, then the number which is on the right of the other number, will be greater.

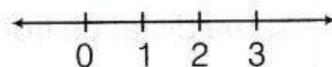
e.g.



Here, we see that -2 is on the right of -3, so -2 is greater and -3 is smaller.

(b) If we compare two positive integers on the number line, then the number which is on the right of the other number, will be greater.

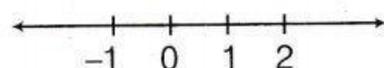
e.g. ,



Here, we see that 3 is on the right of 1, so 3 is greater and 1 is smaller.

(c) If we compare one positive and one negative integers on the number line, then a positive integer is always greater than the negative integer.

e.g.



Here, we see that 2 is on the right of -1, so 2 is greater and -1 is smaller.

Question 72:

Observe the following:

$1+2-3+4+5-6-7+8-9=-5$ Change on sign as V sign to get the sum 9.

Solution:

$$\text{LHS}=1+2-3+4+5-6-7+8-9 = (3 - 3) + (9 - 9) - 6 - 7 + 8 = 0+0-6-7+8=2-7$$

Now, we have to get the sum 9, so replace the sign of (-) into (+) before 7.

$$\text{LHS} = 2 + 7 = 9$$

Question 73:

Arrange the following integers in the ascending order.

-2, 1, 0, -3, + 4, -5

Solution:

For arranging the given integers in ascending order, we have to arrange them from smaller to larger.

$$-5 < -3 < -2 < 0 < 1 < 4$$

Question 74:

Arrange the following integers in the descending order.

- 2, 0, - 1, - 4, - 3, - 6

Solution:

For arranging the given integers in descending order, we have to arrange them from larger to smaller.

$$0 > -1 > -2 > -3 > -4 > -6$$

Question 75:

Write two integers whose sum is 6 and difference is also 6.

Solution:

We know that, on adding zero to an integers, the sum is the integer itself, e.g. $6+0 = 6$

Also, if we subtract zero from an integer, the difference is the integer itself, e.g. $6-0=6$

Hence, the required two integers are 0 and 6.

Question 76:

Write five integers which are less than - 100 but greater than - 150.

Solution:

All the integers lying between -100 and -150 are less than -100 and greater than -150. So, - 101, -102, - 103, - 104 and - 105 are such five integers.

Note There can be many answers of this question.

Question 77:

Write four pairs of integers which are at the same distance from 2 on the number line.

Solution:

As the pairs of integers should be same distance from 2 on the number line. Therefore, the required pairs are

(1, 3) -> both are at a distance of 1 unit.

(0, 4) -> both are at a distance of 2 units.

(-1, 5) -> both are at a distance of 3 units.

(- 2, 6) -> both are at a distance of 4 units.

Note There may be many pairs.

Question 78:

The sum of two integers is 30. If one of the integer is - 42, then find the other.

Solution:

Given, sum of two integers = 30

and one integer = -42

The other integer = Sum of two integers – One integer = $30 - (-42) = 30 + 42 = 72$

Hence, the other integer is 72.

Question 79:

Sum of two integers is -80. If one of the integer is -90, then find the other.

Solution:

Given, sum of two integers = -80

and one integer = -90

The other integer = Sum of two integers – One integer = $(-80) - (-90) = -80 + 90 = 10$

Hence, the other integer is 10.

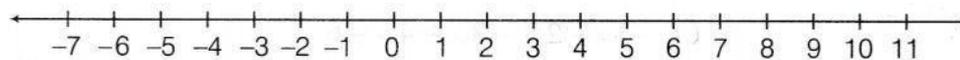
Question 80:

If we are at 8 on the number line, then in which direction should we move to reach the integer

(a) -5? (b) 11? (c) 0?

Solution:

Firstly, we draw a number line and mark some points at equal distance on it.



(a) Clearly, if we move towards -5 from 8, then we are moving in left direction.

(b) Clearly, if we move towards 11 from 8, then we are moving in right direction.

(c) Clearly, if we move towards 0 from 8, then we are moving in left direction.

Question 81:

Using the number line, write the integer which is

(a) 4 more than -5.

(b) 3 less than 2.

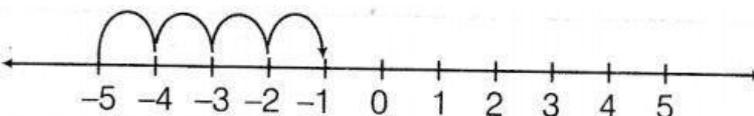
(c) 2 less than -2.

Solution:

(a) Firstly, we draw a number line.

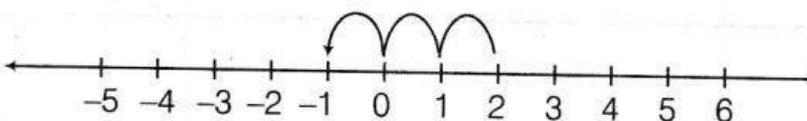
Now, to get the integer 4 more than -5, we start from -5 and move 4 steps to the right of -5 and reach at -1.

Hence, 4 more than -5 is -1.



(b) Firstly, we draw a number line.

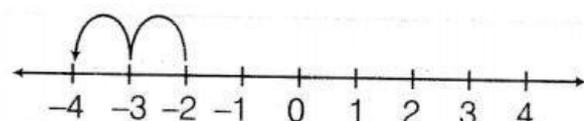
Now, to get the integer 3 less than 2, we start from 2 and move 3 steps to the left of 2 and reach at -1.



Hence, 3 less than 2 is -1.

(c) Firstly, we draw a number line.

Now, to get integer 2 less than -2, we start from -2 and move 2 steps to the left of -2 and reach at -4.



Fence, 2 less than -2 is -4.

Question 82:

Find the value of $49 - (-40) - (-3) + 69$.

Solution:

We have, $49 - (-40) - (-3) + 69 = 49 + 40 + 3 + 69$
 $= 161$

Question 83:

Subtract -5308 from the sum $[(-2100) + (-2001)]$.

Solution:

Firstly, we find the sum

$[(-2100) + (-2001)] = [-2100 - 2001]$
 $= -4101$

Now, subtract -5308 from -4101.

$-4101 - (-5308) = -4101 + 5308 = 1207$