Integers Class 6 Ex 6.1

Ex 6.1 Class 6 Maths Question 1.
Write opposites of the following:
(a) Increase in weight
(b) 30 km North
(c) 326 BC
(d) Loss of ₹700
(e) 100 m above sea level.
Solution:
(a) Decrease in weight
(b) 30 km South
(c) 326 AD
(d) Profit of ₹700
(e)100 m below sea level.

Ex 6.1 Class 6 Maths Question 2.
Represent the following numbers as integers with appropriate signs.
(a) An aeroplane is flying at a height two thousand metre above the ground.
(b) A submarine is moving at a depth, eight hundred metre below the sea level.
(c) A deposit of rupees two hundred.
(d) Withdrawal of rupees seven hundred.
Solution:
(a) +2000 m
(b) -800 m
(c) + ₹200
(d) – ₹700

Ex 6.1 Class 6 Maths Question 3.
Represent the following numbers on a number line: ,
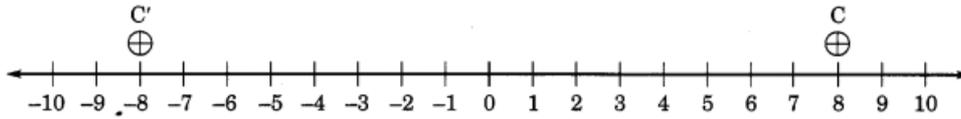(a) +5
(b) -10
(c) ±8
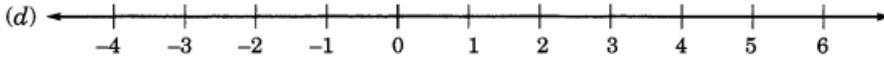(d) -1
(e) -6
Solution:

(a)

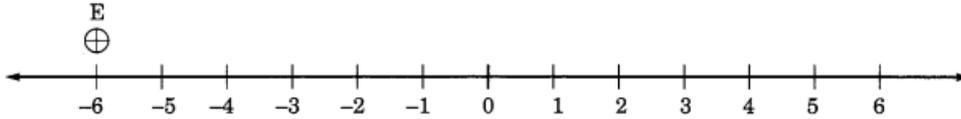Here A represents + 5.

(b)

Here B represents – 10.

(c)

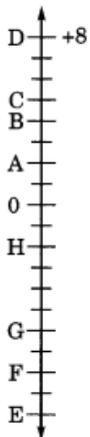Here C and C′ represent ± 8.

(d)

Here, D represents – 1.

(e)

Here, E represents – 6.

Ex 6.1 Class 6 Maths Question 4.
Adjacent figure is a vertical number line, representing integers. Observe it and locate the following points:

(a) If point D is +8, then which point is -8?
(b) Is point G a negative integer or a positive integer?
(c) Write integers for points B and E.
(d) Which point marked on this number line has the least value?
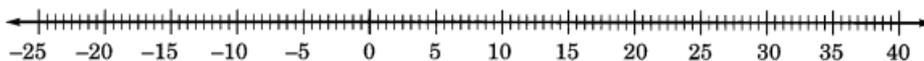(e) Arrange all the points in decreasing order of value.
Solution:
(a) F represents -8
(b) G is a negative integer.
(c) B represents +4 and E represents – 10
(d) E has the least value of -10.
(e) Decreasing order of all the points are: D, C, B, A, 0, H, G, F and E.

Ex 6.1 Class 6 Maths Question 5.
Following is the list of temperatures of five places in India on a particular day of the year.

Place	Temperature	
Siachin	10°C below 0°C	....
Shimla	2°C below 0°C	....
Ahmedabad	30°C above 0°C	....
Delhi .	20°C above 0°C	....
Srinagar	5°C below 0°C	....

(a) Write the temperatures of these places in the form of integers in the blank column.
(b) Following is the number line representing the temperature in degree Celsius.

Plot the name of the city against its temperature.
(c) Which is the coolest place?
(d) Write the names of the places where temperatures are above 10°C.
Solution:

Place	Temperature	In the form of integers
Siachin	10°C below 0°C	– 10°
Shimla	2°C below 0°C	– 2°C
Ahmedabad	30°C above 0°C	+ 30°C
Delhi	20°C above 0°C	+ 20°C
Srinagar	5°C below 0°C	– 5°C

(b)
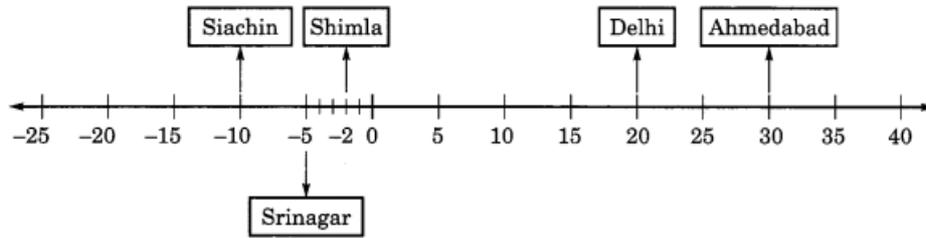
(c) Siachin is the coolest place with -10°C temperature.
(d) (i) Delhi → 20°C
(ii) Ahemedabad → 30°C

Ex 6.1 Class 6 Maths Question 6.
In each of the following pairs, which number is to the right of the other on the number line?
(a) 2, 9
(b) -3, -8
(c) 0, -1
(d) -11, 10
(e) -6, 6
(f) 1, -100
Solution:
(a) 9 is to the right of 2
(b) -3 is to the right of -8
(c) 0 is to the right of – 1
(d) 10 is to the right of -11
(e) 6 is to the right of -6
(f) 1 is to the right of -100.

Ex 6.1 Class 6 Maths Question 7.
Write all the integers between the given pairs (write them in the increasing order):
(a) 0 and -7
(b) -4 and 4
(c) -8 and -15
(d) -30 and -23
Solution:
(a) Integers between 0 and -7 are:
– 6, – 5, – 4, -3,-2,- 1.
(b) Integers between -4 and 4 are:
– 3, – 2, -1, .0, 1, 2, 3.
(c) Integers between -8 and -15 are:
-14,-13, -12,-11,-10,-9.
(d) Integers between -30 and -23 are:
– 29, – 28, – 27, – 26, – 25, – 24.

Ex 6.1 Class 6 Maths Question 8.
(a) Write four negative integers greater than -20.
(b) Write four negative integers less than – 10.
Solution:
(a) Four negative integers greater than – 20 are: – 19, – 18, – 17, – 16.
(b) Four negative integers less than – 10 are: – 11, – 12, – 13, – 14.

Ex 6.1 Class 6 Maths Question 9.
For the following statements, write True (T) or False (F).
If the statement is false, correct the statement.
(a) – 8 is to the right of – 10 on a number line.
(b) – 100 is to the right of- 50 on a number line.
(c) Smallest negative integer is – 1
(d) – 26 is greater than – 25.
Solution:

(a) True (T)
(b) False (F); Correction: -100 is to the left of -50 on a number line.
(c) False (F); Correction: There is no smallest negative integer.
(d) False (F); Correction: -26 is smaller than -25.

Ex 6.1 Class 6 Maths Question 10.
Draw a number line and answer the following:
(a) Which number will we reach if we move 4 numbers to the right of -2.
(b) Which number will we reach if we move 5 numbers to the left of 1.
(c) If we are at -8 on the number line, in which direction should we move to reach -13?
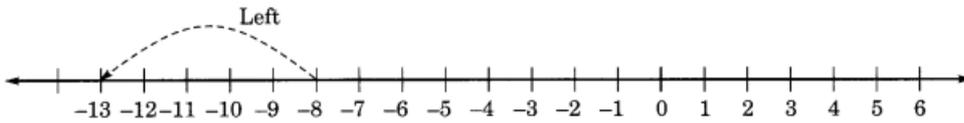(d) If we are at -6 on the number line, in which direction should we move to reach -1?
Solution:

(a)
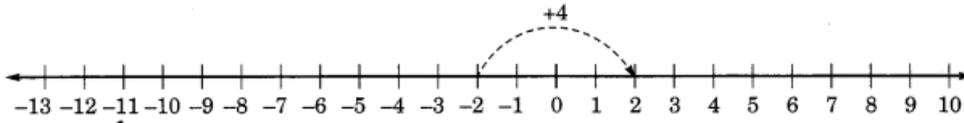
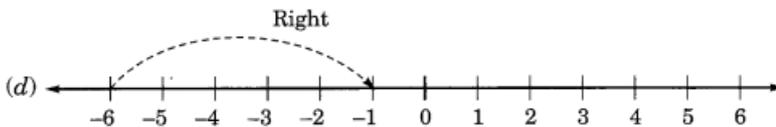If we move 4 numbers to the right of −2, we will reach 2.

(b)
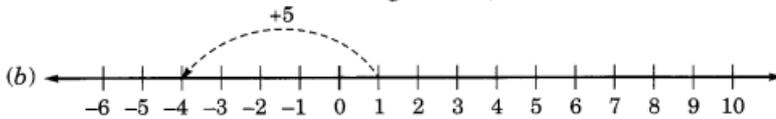
If we move 5 numbers to the left of 1, we will reach − 4.

(c)

We will move to the left of −8 to reach −13.

(d)

We should move right to −6 to reach −1.

Integers Class 6 Ex 6.2

Ex 6.2 Class 6 Maths Question 1.
Using the number line write the integer which is:
(a) 3 more than 5
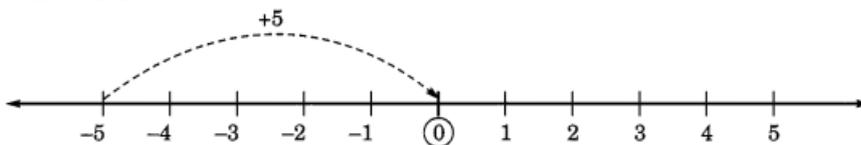(b) 5 more than -5
(c) 6 less than 2
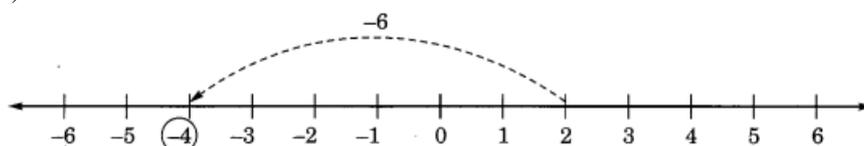Solution:
(a) 3 more than 5

Moving right 3 steps from 5, we reach at 8. Hence, 3 more than 5 = 8.
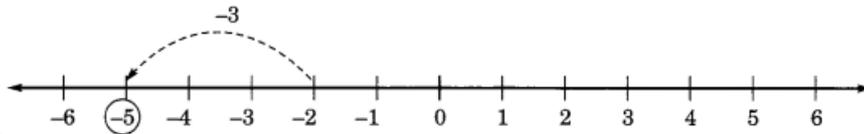
(b) 5 more than -5

Moving right 5 steps from -5 we reach at 0. Hence, 5 more than -5 = 0

(c) 6 less than 2

Moving left 6 steps from 2, we reach at -4. Hence, 6 less than 2 = -4

(d) 3 less than -2
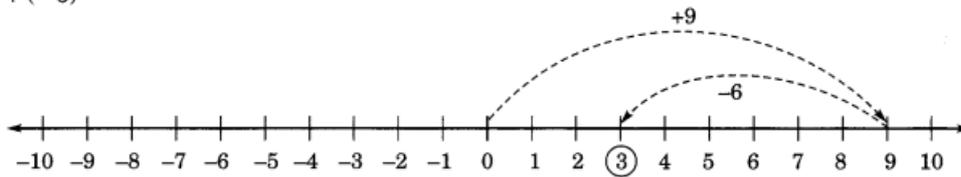

Moving left 3 steps from -2, we reach at -5.

Ex 6.2 Class 6 Maths Question 2.
Use number line and add the following integers:
(a) 9 + (-6)
(b) 5 + (-11)
(c) (-1) + (-7)
(d) (- 5) + 10
(e) (-1) + (-2) + (-3)
Solution:
(a) 9 + (- 6)
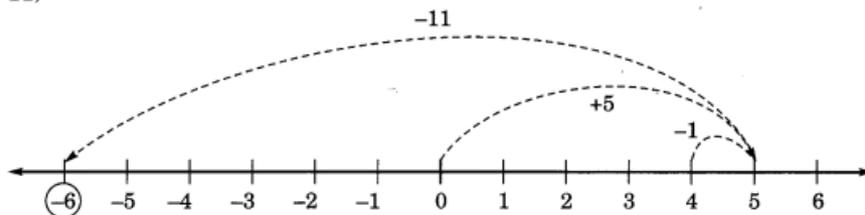(a) 9 + (− 6)

Hence, 9 + (− 6) = 3.
(b) 5 + (− 11)

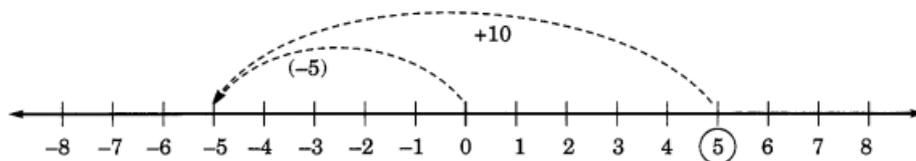Hence, 5 + (− 11) = −6.
(c) (− 1) + (− 7)
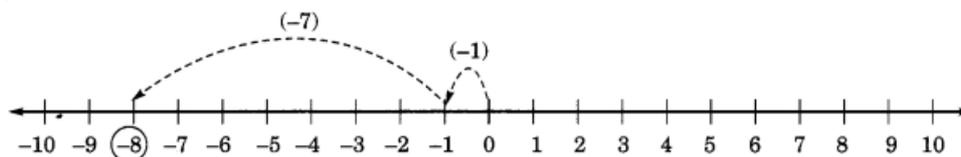
Hence, (− 1) + (− 7) = (− 8).
(d) (− 5) + 10

Hence, (− 5) + 10 = 5.
(e) (− 1) + (− 2) + (− 3)
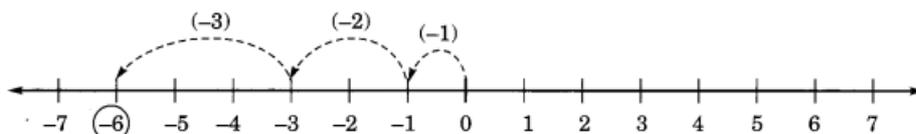
Hence, (− 1) + (− 2) + (− 3) = (− 6).
(f) (− 2) + 8 + (− 4)
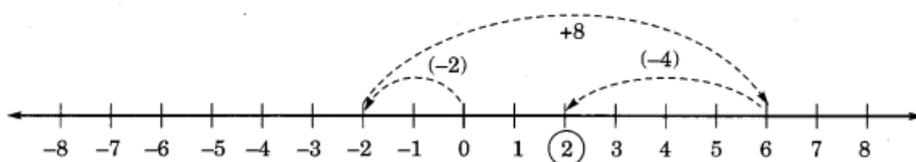
Hence, (− 2) + 8 + (− 4) = 2.

Ex 6.2 Class 6 Maths Question 3.
Add without using number line:
(a) 11 + (-7)
(b) (-13) + (+18)
(c) (-10) + (+19)
(d) (-250) + (+150)
(e) (-380) + (-270)
(f) (-217) + (-100).
Solution:
(a) 11 + (-7) = 4 + (+7) + (-7)
[∵ (+7) + (-7) = 0]
= 4 + 0 = 4
Hence, 11 + (-7) = 4.

(b) (-13) + (+18) = (-13) + (+13) + (+5)
[∵ (-13) + (+13) = 0]
= 0 + (+ 5) = 5
Hence, (- 13) + (+ 18) = 5.

(c) (-10) + (+19) = (-10) + (+10) + (+9)
[∵ (-10) + (10) = 0] = 0 + (+9) = 9
Hence, (-10) + (19) = 9.

(d) (-250) + (+150) = (-100) + (-150) + (+150)
= (-100) + 0 = -100 [∵(-150) + (+150) = 0]
Hence, (-250) + (+150) = – 100.

(e) (-380) + (-270) = – [380 + 270] = (-650)
Hence, (-380) + (-270) = (-650).

(f) (-217) + (-100) = – [217 + 100] = -317

Ex 6.2 Class 6 Maths Question 4.
Find the sum of:
(a) 137 and -354
(b) -52 and 52 .
(d) -312, 39 and 192
(d) -50, -200 and 300
Solution:
(a) 137 and -354
(137) + (-354) = (137) + (-137) + (-217) [∵ (137) + (-137) = 0]
= 0 + (-217) = (-217)

(b) -52 and 52
(-52) + (+52) = 0 [∵ (-a) + (+ a) = 0]

(c) -312, 39 and 192
(-312) + (+ 39) + (+192)
= (-231) + (- 81) + (+39) + (+192)
= (-231) + (-81) + (+ 231)
= (-231) + (+ 231) + (-81)
[∵ (-a) + (a) = 0]
= 0 + (- 81) = – 81

(d) – 50, -200 and 300
(-50) + (-200) + (+ 300)
= (-50) + (-200) + (+200) + (+100)
= (-50) + 0 + (+100)[∵ (-a) + (+ a) = 0]
= (-50) + (+100)
= (-50) + (+50) + (+ 50)
= 0 + (+ 50) = 50 [∵ (-a) + (+ a) = 0]

Ex 6.2 Class 6 Maths Question 5.
Find the sum of:
(a) (- 7) + (-9) + 4 + 16
(b) (37) + (-2) + (-65) + (-18)
Solution:
(a) (- 7) + (-9) + 4 + 16
= (-7) + (-9) + 4 + (+ 7) + (+ 9)
= (-7) + (+7) + (-9) + (+9) + 4

= 0 + 0 + 4 = 4 [∵ (-a) + (a) = 0]

(b) (37) + (-2) + (-65) + (-8)
= (+37) + (-75)
= (+37) + (-37) + (-38)
= 0 + (-38) = (-38) [∵ (-a) + (+a) = 0]

Integers Class 6 Ex 6.3

Ex 6.3 Class 6 Maths Question 1.
Find:
(a) 35 – (20)
(b) 72 – (90)
(c) (-15) – (-18)
(d) (- 20) – (13)
(e) 23 – (-12)
(f) (-32) – (-40)
Solution:
(a) 35 – (20) = 15 + (20) – (20)
= 15 + 0 = 15 [(+a) + (-a) = 0]

(b) 72 – 90
72 – (72 + 18) = 72 – 72 – 18
= 0 – 18 = – 18 [a + (- a) = 0]

(c) (- 15) – (- 18)
= (- 15) + (additive inverse of – 18)
= (-15) + (18) = 3

(d) (- 20) – (13)
(- 20) – (13) = – [20 + 13] = – 33

(e) 23 – (- 12)
23 – (- 12) = 23 + (additive inverse of – 12)
= 23 + 12 = 35

(f) (- 32) – (- 40)
(- 32) + (additive inverse of – 40)
= (- 32) + 40 = 8

Ex 6.3 Class 6 Maths Question 2.
Fill in the blanks with >, < or = sign.
(a) (-3) + (-6) (-3) – (-6)
(b) (-21) – (-10) (- 31) + (-11)
(c) 45 – (-11) 57 + (-4)
(d) (-25) – (-42) (-42) – (-25)
Solution:
(a) (-3) + (-6) = – [3 + 6] = – 9 and (-3) – (-6) = (-3) + 6 = 3
Here, – 9 < 3
∴ (- 3) + (- 6) < (- 3) – (- 6)

(b) (-21) – (-10) = (-21) + 10 = -11 and (-31) + (-11) = – (31 + 11) = – 42
Here, -42 < -11 or -11 > -42 ∴ (-21) , -(-10) >(-31)+ (-11)

(c) 45 – (-11) = 45 + 11 = 56 and 57 + (-4) = 57 -4 = 53
Here, 56 >53
∴ 45 – (-11) > 57 + (-4)

(d) (-25) – (-42) = -25 + 42 = 17
and (-42) – (-25) = -42 + 25 = -17
Here, 17 > -17
∴ (-25) – (-42) > (-42) – (-25).

Ex 6.3 Class 6 Maths Question 3.
Fill in the blanks.
(a) (-8) + …. = 0
(b) 13 + …. = 0
(c) 12 + (-12) = ….
(d) (-4) + …. = – 12
(e) …. -15 = – 10.

Solution:
(a) (-8) + (additive inverse of -8) = 0
= (-8) + (8) = 0
∴ Value of blank is 8

(b) 13 + (additive inverse of 13) = 0
= 13 + (-13) = 0
∴ Value of blank is – 13

(c) 12 + (-12) = 0 [∵ -12 is additive inverse of 12]
∴ The Value of blank is 0

(d) (-4) + (-8) = -[4 + 8] = -12
∴ Value of blank is -8.

(e) (+5) – 15 = -10
∴ Value of blank is +5.

Ex 6.3 Class 6 Maths Question 4.
Find :
(a) (-7) – 8 – (-25)
(b) (-13) + 32 – 8 – 1
(c) (-7) + (-8) + (-90)
(d) 50 – (-40) – (-2)
Solution:
(a) (-7) – 8 – (-25)
= (-7) – 8 + 25
[∵ Additive inverse of – 25 is 25]
= -7 + 17 = -7 + 7 +10
[∵ (-a) + (+a) = 0]
= 0 + 10 = 10.

(b) (-13) + 32 – 8 – 1
= (-13) + (13) + 19 – (8 + 1)
= 0 + 19 – 9
= 19 – 9 [∵ (-13) + (13) = 0]
= 10 + 9 – 9 = 10 + 0 = 10.
[(+9) – (+9) = 0]

(c) (-7) + (-8) + (-90) = – (7 + 8) + (-90)
= -15 + (-90)
= -(15 + 90)
= -105.

(d) 50 – (-40) – (-2)
= 50 – [- 40 – 2]
= 50 – (-42)
= 50 + 42
= 92.

Question 1:

Write opposites of the following:

(a) Increase in weight (b) 30 km north

(c) 326 BC (d) Loss of Rs 700

(e) 100 m above sea level

Answer:

(a) Decrease in weight

(b) 30 km south

(c) 326 A.D.

(d) Gain of Rs 700

(e) 100 m below sea level

Question 2:

Represent the following numbers as integers with appropriate signs.

(a) An aeroplane is flying at a height two thousand metre above the ground.

(b) A submarine is moving at a depth, eight hundred metre below the sea level.

(c) A deposit of rupees two hundred.

(d) Withdrawal of rupees seven hundred.

Answer:

(a) +2000

(b) −800

(c) +200

(d) −700

Question 3:

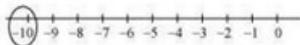Represent the following numbers on a number line:

(a) + 5 (b) − 10 (c) + 8
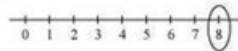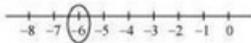
(d) − 1 (e) − 6

Answer:

(a)
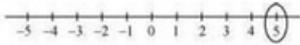
(b)

(c)

(d)

(e)

Question 4:

Adjacent figure is a vertical number line, representing integers. Observe it and locate the following points:

(a) If point D is + 8, then which point is − 8?

(b) Is point G a negative integer or a positive integer?

(c) Write integers for points B and E.

(c) Write integers for points B and E.

(d) Which point marked on this number line has the least value?

(e) Arrange all the points in decreasing order of value.
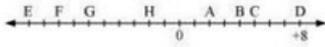
Answer:

(a) F

(b) Negative integer (−6)

(c) Point B represents 4 and point E represents −10.

(d) E has the least value as it represents −10.

(e) D > C > B > A > O > H > G > F > E

Question 5:

Following is the list of temperatures of five places in India on a particular day of the year.

Place	Temperature
Siachin	10°C below 0°C ......
Shimla	2°C below 0°C ......
Ahmedabad	30°C above 0°C ......
Delhi	20°C above 0°C ......
Srinagar	5°C below 0°C ......

(a) Write the temperatures of these places in the form of integers in the blank column.

(b) Following is the number line representing the temperature in degree Celsius.

Plot the name of the city against its temperature.

(c) Which is the coolest place?

(d) Write the names of the places where temperatures are above 10°C.

Answer:

(a)

Siachin	−10°C
Shimla	−2°C
Ahmedabad	+30°C
Delhi	+20°C
Srinagar	−5°C

(b)

(c) Siachin

(d) Delhi, Ahmedabad

Question 6:

In each of the following pairs, which number is to the right of the other on the number line?

(a) 2, 9 (b) − 3, − 8 (c) 0, − 1
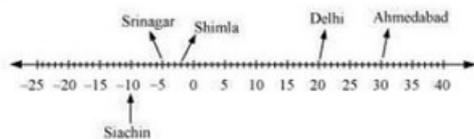
(d) − 11, 10 (e) − 6, 6 (f) 1, − 100

Answer:

(a) 9 (9 > 2)

(b) −3 (−3 > −8)

(c) 0 (0 > −1)

(d) 10 (10 > −11)

(e) 6 (6 > −6)

(f) 1 (1 > −100)

Question 7:

Write all the integers between the given pairs (write them in the increasing order.)

(a) 0 and − 7 (b) − 4 and 4

(c) − 8 and − 15 (d) − 30 and − 23

Answer:

(a) −6, −5, −4, −3, −2, −1

(b) −3, −2, −1, 0, 1, 2, 3

(c) −14, −13, −12, −11, −10, −9

(d) −29, −28, −27, −26, −25, −24

Question 8:

(a) Write four negative integers greater than − 20.

(b) Write four negative integers less than − 10.

Answer:

(a) −19, −18, −17, −16

(b) −11, −12, −13, −14

Question 9:

For the following statements, write True (T) or False (F). If the statement is false, correct the statement.

(a) − 8 is to the right of − 10 on a number line.

(b) − 100 is to the right of − 50 on a number line.

(c) Smallest negative integer is − 1

(d) − 26 is greater than − 25.

Answer:

(a) True (−8 > −10)

(b) False (−50 > −100)

−100 is to the left of −50 on a number line.

(c) False, as the greatest negative integer is −1.

(d) False, as −26 is smaller than −25.

Question 10:

Draw a number line and answer the following:

(a) Which number will we reach if we move 4 numbers to the right of − 2.

(b) Which number will we reach if we move 5 numbers to the left of 1.

(c) If we are at − 8 on the number line, in which direction should we move to reach − 13?

(d) If we are at − 6 on the number line, in which direction should we move to reach − 1?

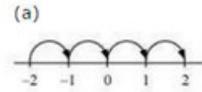**Question 10:**

Draw a number line and answer the following:

(a) Which number will we reach if we move 4 numbers to the right of – 2.

(b) Which number will we reach if we move 5 numbers to the left of 1.

(c) If we are at – 8 on the number line, in which direction should we move to reach – 13?

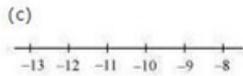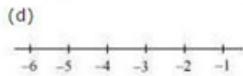(d) If we are at – 6 on the number line, in which direction should we move to reach – 1?

Answer:

(a)

We will reach at 2, if we move 4 numbers to the right of −2.

(b)
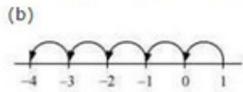
We will reach at −4, if we move 5 numbers to the left of 1.

(c)

Clearly, −13 is to the left of −8. Therefore, we should move towards the left direction.

(d)

Clearly, −1 is to the right of −6. Therefore, we should move towards the right direction.

Extra Questions for Class 6 Maths Chapter 6 Integers

Integers Class 6 Extra Questions Very Short Answer Type

Question 1.
Represent the following on number line:
(a) -5
(b) 4
Solution:
(a) – 5
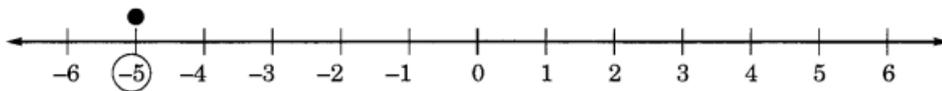
(b) 4
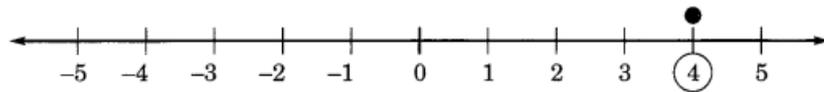
Question 2.
Identify the negative integers from the given numbers.
– 5, 3, 0, 5, – 6, 7, 3, 4, – 4, – 7
Solution:
Negative integers are – 5, – 6, – 4 and – 7 .

Question 3.
What is the additive identity of – 20?
Solution:
Additive identity of – 20 is 20.

Question 4.
What is negative of 0?
Solution:
The negative of 0 is 0 it self.

Question 5.
What is the absolute value of |- 6| ?
Solution:
Absolute value of |- 6| is 6.

Question 6.
What is the absolute value of |0| ?
Solution:

Absolute value of |0| is 0.

Question 7.
What is the negative of – 13?
Solution:
Negative of (- 13) is – (- 13) = 13.

Question 8.
What is the successor of – 7?
Solution:
The successor of -7 = -7 + 1 = -6

Question 9.
What is the predecessor of – 5?
Solution:
The predecessor of -5 is – 5 – 1 = -6.

Question 10.
Write the opposite of 50 km towards north?
Solution:
Opposite of 50 km towards north is 50 km towards south.

Question 11.
Write the following integers in their increasing order.
– 3, 0, – 6, 5, – 4, 6, 3, – 8
Solution:
The required increasing order is:
– 8, – 6, – 4, – 3, 0, 3, 5, 6

Question 12.
Comparing the following pairs of number use > or < .
(a) 0 ☐ – 6   (b) – 10 ☐ – 2

(c) – 100 ☐ 100   (d) 2 ☐ – 2

Solution:
(a) 0 > – 6
(b) – 10 < – 2
(c) – 100 < 100
(d) 2 > – 2

Question 13.
Write all the integers between the following pair of integers:
(a) 0 and – 4
(B) – 5 and 5
(c) – 8 and – 13
(d) 3 and 6
Solution:
(a) Integers between 0 and – 4 are: -3, -2, -1
(B) Integers between – 5 and 5 are: -4, -3, -2, -1, 0, 1, 2, 3, 4.
(c) Integers between – 8 and – 13 are: -12, -11, -10, -9
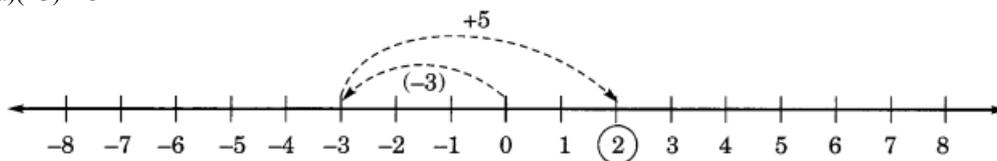(d) Integers between 3 and 6 are: 4 and 5

Question 14.
Find the solution of the following additions using number line:
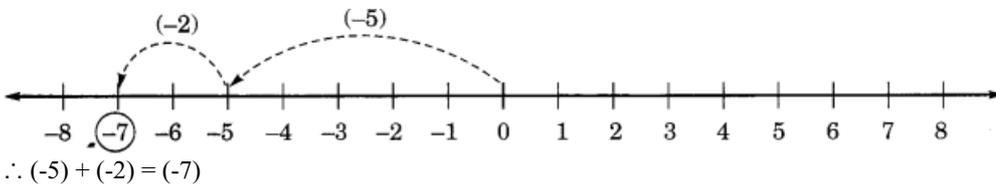(a)(- 3) + 5
(B) (- 5) + (-2)
Solution:
(a)(- 3) + 5

∴ (-3) + 5 = 2

(B) (- 5) + (-2)

∴ (-5) + (-2) = (-7)

Question 15.
Find the sum of the following integers:
(a) (- 8) + (+ 5) + (- 3) + (- 2)
(B) (- 7) + (- 9) + (+ 4) + (+ 3)
Solution:
(a) (- 8) + (+ 5) + (- 3) + (- 2)
= (- 8) + (+ 5) – (3 + 2)
= (- 8) + (+ 5) – (5)
= (- 8) + 0 = – 8 [∵ (+ a) + (- a) = 0]

(b) (- 7) + (- 9) + (+ 4) + (+ 3)
= (- 7) + (- 9) + (4 + 3)
= (- 7) + (- 9) + (+ 7)
= (- 7) + (+ 7) + (- 9)
= 0 + (- 9) = – 9 [∵ (- a) + (+ a) = 0]

Question 16.
Ramesh thinks of an integer. He subtracts 12 from it and gets the result as – 6. What was the integer he thought of?
Solution:
The given sum can be written as under.
(___) – (12) = – 6
The required integer is 12 – 6 = 6.

Question 17.
Fill in the blanks:
(a) To subtract (- 8) from 13, we add ……… to 13.
(b) To subtract 5 from (- 12), we add ……… to (-13)
(c) The negative of a negative integer is a ……… integer.
(d) An integer when added to its opposite gives ……… as the sum.
(e) -4 + …….. = 1
(f) 4 – (- 3) = ………
(g) ……… + (- 79) = 19
Solution:
(a) 8
(b) – 4
(c) positive
(d) 0
(e) 5
(f) 7
(g) 98

Question 18.
Determines:
(a) | 5 | – |- 3 |
(b) | 5 – 6|+ | -1 |
(c) – 7 + | – 3 |
(d) | 5 | + | – 12 |
Solution:
(a) | 5 | – | – 3 | = 5 – 3 = 2 [∵ |a| = a and |- a| = a]
(b) |5 – 6 | + |- 1| = |- 1| + |-1| = 1 + 1 = 2
(c) – 7 + | – 3 | = -7 + 3 = -4
(d) | 5 | + | – 12 | = 5 + 12 = 17

Question 19.
If * is an operation such that for two integers p and q, p * q = p + q – 2, then find:
(a) 6 * 2
(b) (- 2) * (- 3)
(c) (- 2) * (4)
(d) (+ 3) * (- 1)
Solution:
(a) Given that: p * q = p + q – 2
⇒ 6 * 2 = 6 + 2 – 2 = 6 + 0 = 6
Thus, 6 * 2 = 6.

(b) Given that: p * q = p + q – 2
⇒ (- 2) * (- 3) = (- 2) + (- 3) – 2
= -5 – 2 = -7.
Thus, (- 2) * (- 3) = – 7.

(c) Given that: p * q = p + q – 2
⇒ (- 2) * (4) = (- 2) + (4) – 2 = 2 – 2 = 0.
Thus, (- 2) * (4) = 0.

(d) Given that p*q – p + q – 2
⇒ (+ 3) * (- 1) = (+ 3) + (- 1) – 2 = 2 – 2 = 0
Thus, (+ 3) * (- 1) = 0.

Question 20.
Complete the table:

Second number

(−)	−3	−4	−2	0	−1	1
−2						
−3						
0						
+1						
−1						
−2						

First number

Solution:
The required table can be completed as under:

Second number

(−)	−3	−4	−2	0	−1	1
−2	1	2	0	−2	−1	−3
−3	0	1	−1	−3	−2	−4
0	3	4	2	0	1	−1
+1	4	5	3	1	2	0
−1	2	3	1	−1	0	−2
2	5	6	4	2	3	1

First number