# MATHEMATICS

CHAPTER-6 INTEGERS

*Exercise 6.1*

**Question 1:**
Write opposite of the following:

(a) Increase in weight  (b) 30 km north
(c) 326 BC  (d) Loss of ₹700
(e) 100 m above sea level

**Answer 1:**

(a) Decrease in weight  (b) 30 km south
(c) 326 AD  (d) Profit of ₹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 meters above the ground.

(b) A submarine is moving at a depth eight thousand meters below the sea level.

(c) A deposit of rupees two hundred.

(d) Withdrawal of rupees seven hundred.

**Answer 2:**

(a) (+) 200 meters  (b) (−) 800 meters
(c) (+) 200 Rupees  (d) (−) 700 Rupees

**Question 3:**
Represent the following numbers on number line:

(a) +5  (b) −10
(c) +8  (d) −1
(e) −6

**Answer**   **3:**

(a)



(b)

(c) 

(d) 

(e) 
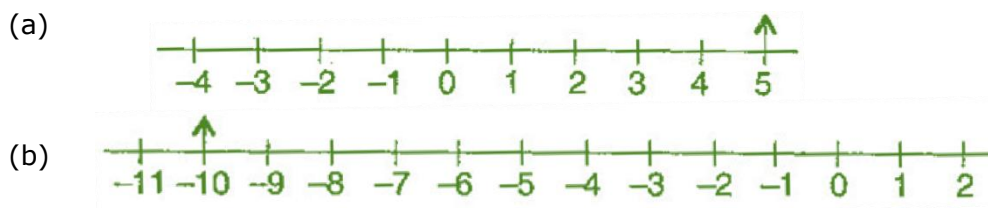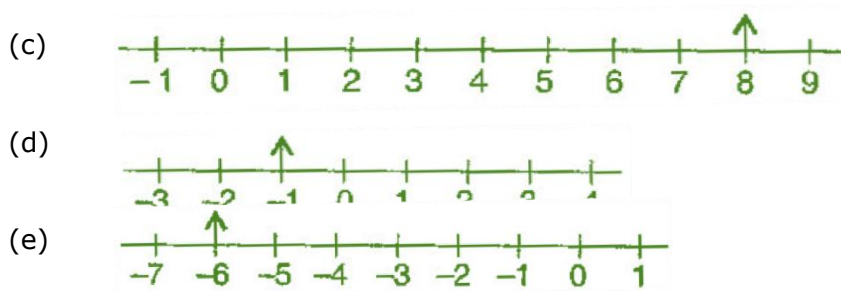
**Question 4:**
Adjacent figure is a vertical number line, representing integers. Observe it and locate the following points:

(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.

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

(e) Arrange all the points in decreasing order of values.
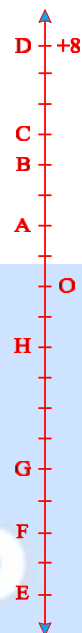
**Answer 4:**

(a) F

(b) Negative

(c) B = (+) 4; E = (−) 10

(d) E

(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$^o$C below 0$^o$C | _____ |
| Shimla | 2$^o$C below 0$^o$C | _____ |
| Ahmedabad | 30$^o$C above 0$^o$C | _____ |
| Delhi | 20$^o$C above 0$^o$C | _____ |
| Srinagar | 5$^o$C below 0$^o$C | _____ |

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

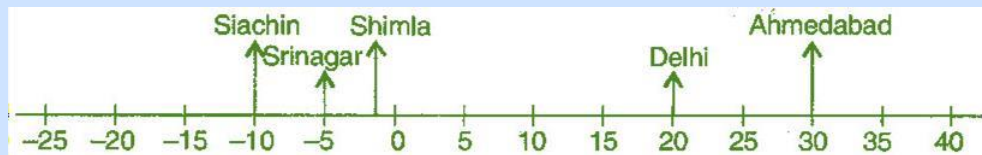(b) Following is the number line representing the temperature in degree Celsius.



−25 −20 −15 −10 −5 0 5 10 15 20 25 30 35 40
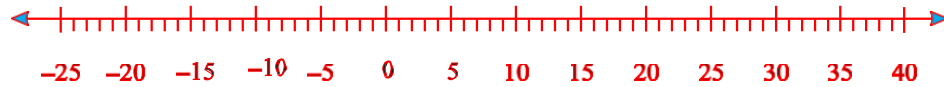
Plot the name of the city against its temperature.

(c) Which is the coolest place?

(d) Write the names of the place where temperature are above 10⁰C.

**Answer 5:**

| Place | Temperature |
| --- | --- |
| (a) Siachin | (−) 10⁰C |
| Shimla | (−) 2⁰C |
| Ahmedabad | (+) 30⁰C |
| Delhi | (+) 20⁰C |
| Srinagar | (−) 5⁰C |

(b) Number line



(c) Siachin

(d) Ahemadabad, Delhi

**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 6:**

(a) 9 is right to 2          (b) −3 is right to −8
(c) 0 is right to −1          (d) 10 is right to −11
(e) 6 is right to −6          (f) 1 is right to −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 7:**

(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 8:**

(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 the right of −50 on a number line.

(c) Smallest negative integer is −1.

(d) −26 is larger than −25.

**Answer 9:**

(a) True

(b) False

(c) False

(d) False

**Question 10:**
Draw a number line and answer the following:

(a) Draw a number line 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 10:**

(a)



(b)
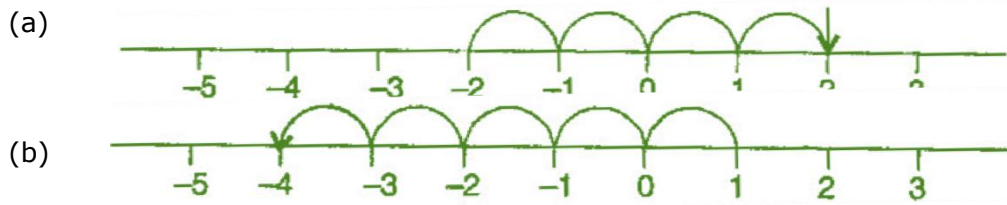


(c) On left side
(d) On right side

*Exercise 6.2*

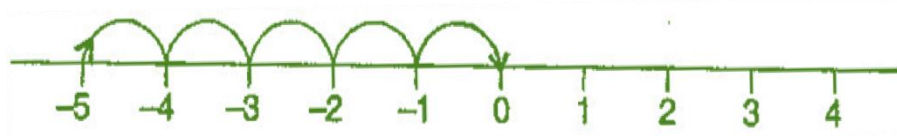**Question 1:**
Using the number line write the integer which is:

(a) 3 more than 5                               (b) 5 more than −5

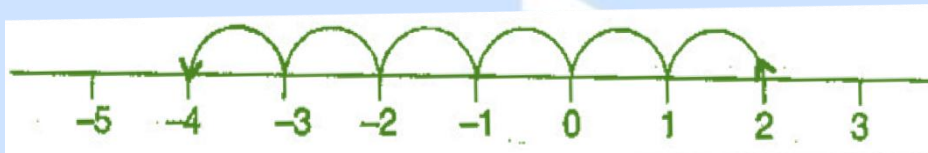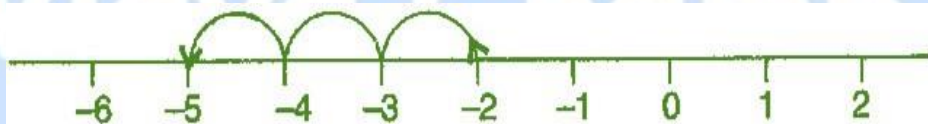(c) 6 less than 2                                 (d) 3 less than −2
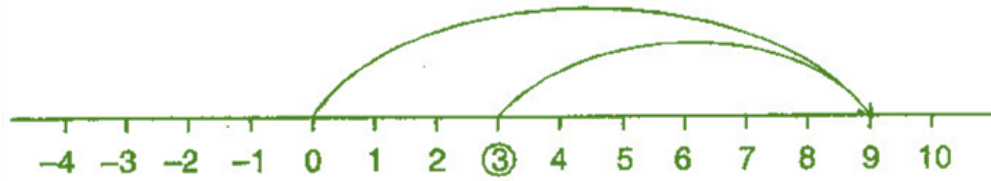
**Answer 1:**

(a) 8

(b) 0

(c) −4

(d) −5

**Question 2:**
Use number line and add the following integers:

(a) 9 + (−6)

(b) 5 + (−11)

(c) (−1) + (−7)

(d) (−5) + 10

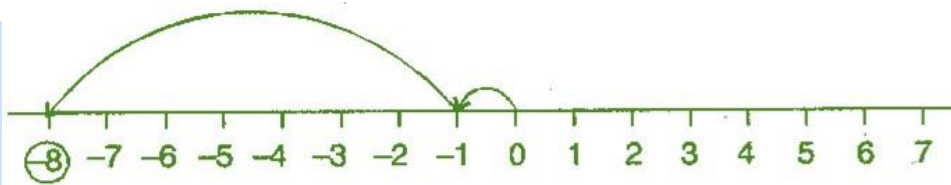(e) (−1) + (−2) + (−3)

(f) (−2) + 8 + (−4)

**Answer 2:**

(a) 9 + (−6) = 3
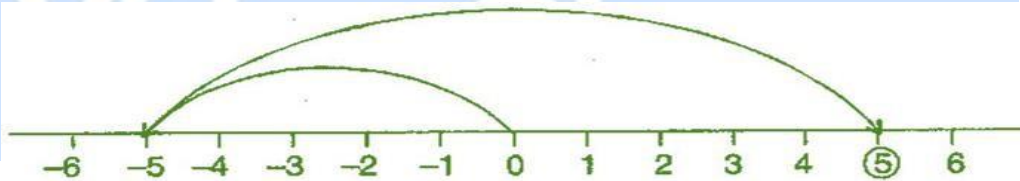


(b) 5 + (−11) = −6
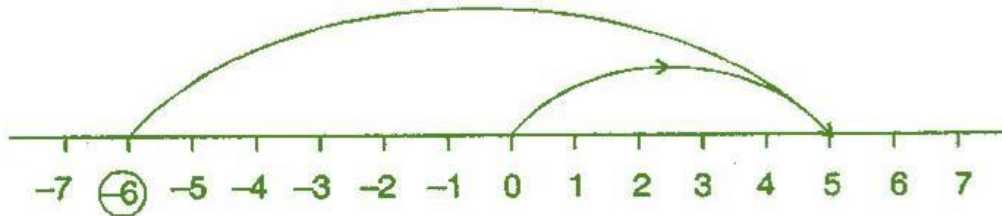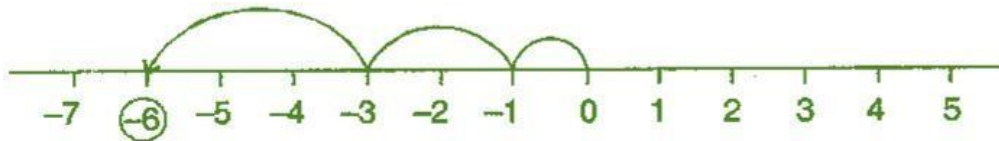


(c) (−1) + (−7) = −8



(d) (−5) + 10 = 5



(e) (−1) + (−2) + (−3) = −6



(f) (−2) + 8 + (−4) = 2
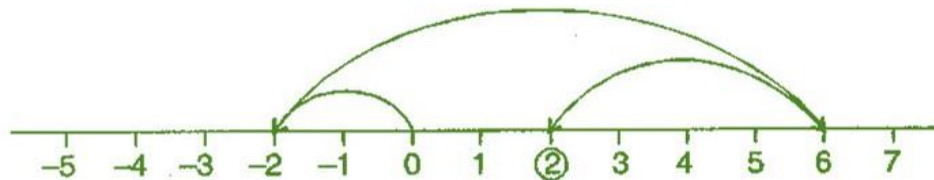
**Question 3:**
Add without using number line:

(a) 11 + (−7)                         (b) (−13) + (+18)
(c) (−10) + (+19)                     (d) (−250) + (+150)
(e) (−380) + (−270)                   (f) (−217) + (−100)

**Answer 3:**

(a) 11 + (−7) = 11 − 7 = 4
(b) (−13) + 18 = 5
(c) (−10) + (+19) = −10 + 19 = 9
(d) (−250) + (+150) = −250 + 150 = −100
(e) (−380) + (−270) = −380 − 270 = −650
(f) (−217) + (−100) = −217 v 100 = −317

**Question 4:**
Find the sum of:

(a) 137 and −354                      (b) −52 and 52
(c) −213, 39 and 192                  (d) −50, −200 and 300

**Answer 4:**

(a) 137 + (−354) = 137 − 354 = −217
(b) (−52) + 52 = 0
(c) (−312) + 39 + 192 = −312 + 231 = −81
(d) (−50) + (−200) + 300 = −50 − 200 + 300 = −250 + 300 = 50

**Question 5:**
Find the value of:

(a) (−7) + (−9) + 4 + 16
(b) 37 + (−2) + (−65) + (−8)

**Answer 5:**

(a) (−7) + (−9) + 4 +
       16
   = −7 − 9 + 4 + 16
   = −16 + 20
   = 4
(b) 37 + (−2) + (−65) + (−8)
   = 37 − 2 − 65 − 8
   = 37 − 75
   = −38

***Exercise 6.3***

**Question 1:**

Subtract:

    (a) 35 – (20)                  (b) 72 – (90)

    (c) (−15) – (−18)          (d) (−20) – (13)

    (e) 23 – (−12)             (f) (−32) – (−40)

  **Answer 1:**

    (a) 35 – 20 = 15            (b) 72 – 90 = −18

    (c) (−15) – (−18) = −15 + 18 = 3     (d) −20 – (13) = −20 – 13 = −33

    (e) 23 – (−12) = 23 + 12 = 35      (f) (−32) – (−40) = −32 + 40 = 8

**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)

  **Answer 2:**

    (a) (−3) + (−6) ▢ (−3) – (−6)

    (b) (−21) – (−10) ▢ (−31) + (−11)

    (c) 45 – (−11) ▢ 57 + (−4)

    (d) (−25) – (−42) ▢ (−42) – (−25)

**Question 3:**

Fill in the blanks:

    (a) (−8) +＿＿＿＿= 0

    (b) 13 +＿＿＿＿= 0

    (c) 12 + (−12) = ＿＿＿

    (d) (−4) +＿＿＿＿= −12

    (e)＿＿＿＿– 15 = −10

  **Answer 3:**

    (a) (−8) + <u>8</u> = 0            (b) 13 + <u>(−13)</u> = 0

    (c) 12 + (−12) = <u>0</u>         (d) (−4) + <u>(−8)</u> = −12

    (e) <u>5</u> – 15 = −10

**Question 4:**
Find:
    (a) (−7) − 8 − (−25)
    (b) (−13) + 32 − 8 − 1
    (c) (−7) + (−8) + (−90)
    (d) 50 − (−40) − (−2)

**Answer 4:**

(a) (−7) − 8 − (−25)
  = −7 − 8 + 25
   = −15 + 25
   = 10

(b) (−13) + 32 − 8 − 1
  = −13 + 32 − 8 − 1
   = 32 − 22
   = 10

(c) (−7) + (−8) + (−90)
  = −7 − 8 − 90
   = −105

(d) 50 − (−40) − (−2)
  = 50 + 40 + 2
   = 92