

**Learn and Remember**

1. All the numbers with both negative or positive values are integers
 $-4, -3, -2, -1, 0, 1, 2, \dots$ are example of integers.
2. $1, 2, 3, 4, 5, \dots$ are positive integers where $-1, -2, -3, -4, -5$ are negative integers.
3. 0 is the integer which is neither positive nor negative.
4. On an integer number line, all numbers to the right of 0 are positive integers and all numbers to the left of 0 are negative.
5. The greater the number, the lesser is its opposite.
6. The sum of an integer and its opposite is zero.
7. The absolute value of an integer is the numerical value of the integer regard less of its sign.
8. To add two positive integers or two negative integers, we add their absolute values and assign the sign of the addends to the sum.
9. To add a positive and a negative integers, we determine the difference of their absolute value and assign the sign of addend having greatest absolute value.

TEXTBOOK QUESTIONS SOLVED**EXERCISE 6.1**

Q1. 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.

Sol. (a) Decrease in weight. (b) 30 km south. (c) 326 AD.
(d) Profit of ₹ 700 (e) 100 m below sea level.

Q2. Represent the following numbers as integers with appropriate signs.

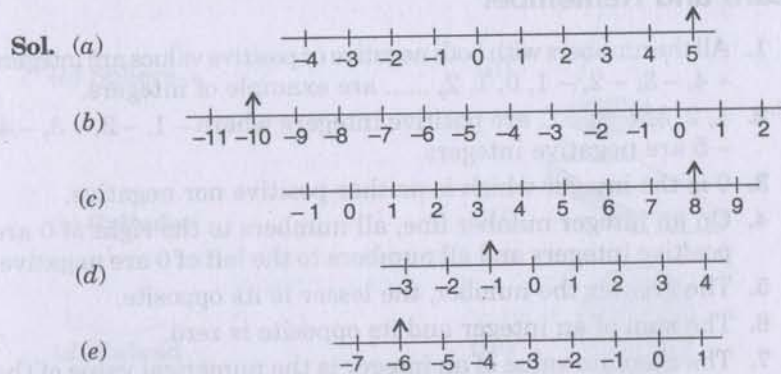
- (a) An aeroplane is flying at a height two thousand metre above the ground.
(b) A submarine is moving at a depth eight hundred metre below the sea level.

- (c) A deposit of rupees two hundred.
 (d) Withdrawal of rupees seven hundred.

Sol. (a) (+) 2000 metres. (b) (-) 800 metres.
 (c) (+) 200 Rupees. (d) (-) 700 Rupees.

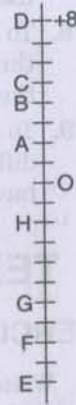
Q3. Represent the following numbers on a number line:

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



Q4. 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.

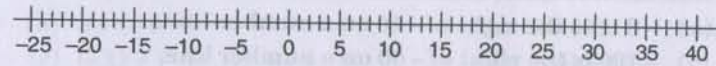


Sol. (a) F (b) Negative.
 (c) B = (+) 4; E = (-) 10 (d) E
 (e) D, C, B, A, O, H, G, F, E.

Q5. 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.



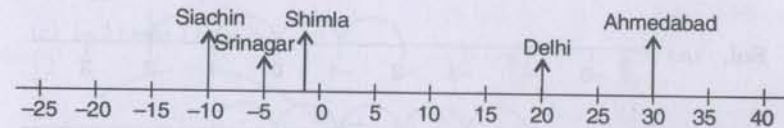
Plot the name of the city against its temperature.

- (c) Which is the coolest place?
 (d) Write the names of the place where temperatures are above 10°C.

Sol.

Place	Temperature
(a) Siachin	(-) 10°C
Shimla	(-) 2°C
Ahmedabad	+ 30°C
Delhi	+ 20°C
Srinagar	(-) 5°C

(b)



- (c) Siachin
 (d) Ahmedabad, Delhi.

Q6. 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

Sol. (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

Q7. 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

Sol. (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.

Q8. (a) Write four negative integers greater than -20.
 (b) Write four negative integers less than -10.

Sol. (a) $-19, -18, -17, -16$.

(b) $-11, -12, -13, -14$.

Q9. 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 .

Sol. (a) True (b) False (c) False (d) False.

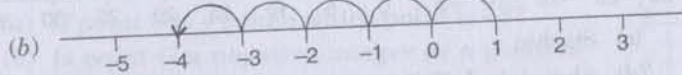
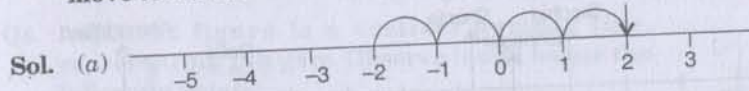
Q10. Draw a number line and answer the following:

(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 ?



(c) On left side.

(d) On right side.

EXERCISE 6.2

Q1. Using the number line write the integer which is:

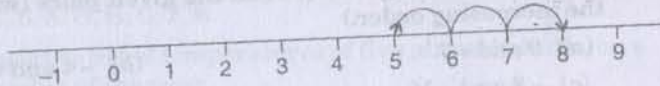
(a) 3 more than 5

(b) 5 more than -5

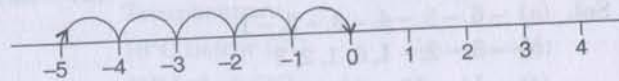
(c) 6 less than 2

(d) 3 less than -2

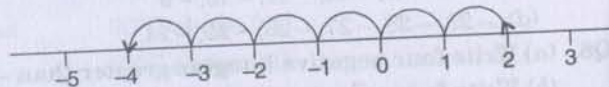
Sol. (a) 8



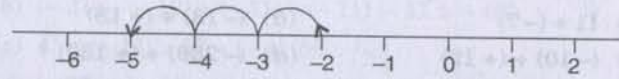
(b) 0



(c) -4



(d) -5



Q2. Use number line and add the following integers:

(a) $9 + (-6)$

(b) $5 + (-11)$

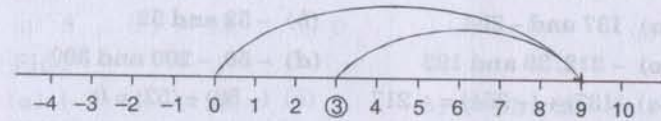
(c) $(-1) + (-7)$

(d) $(-5) + 10$

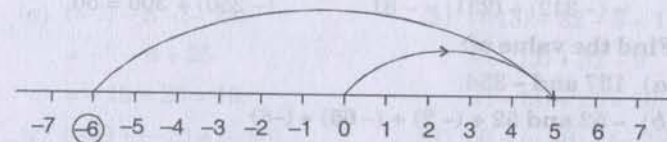
(e) $(-1) + (-2) + (-3)$

(f) $(-2) + 8 + (-4)$

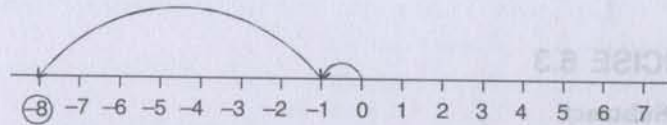
Sol. (a) $9 + (-6) = 3$



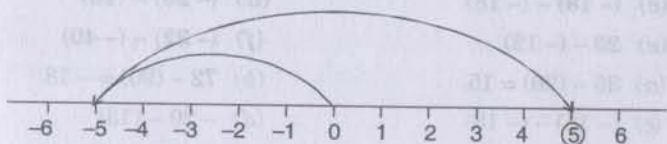
(b) $5 + (-11) = -6$



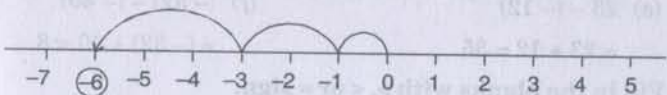
(c) $(-1) + (-7) = -8$



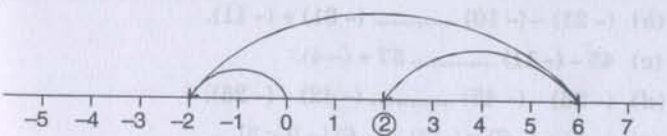
(d) $(-5) + 10 = 5$



(e) $(-1) + (-2) + (-3) = -6$



(f) $(-2) + 8 + (-4) = 2$



Q3. Add without using number line:

(a) $11 + (-7)$

(b) $(-13) + (+18)$

(c) $(-10) + (+19)$

(d) $(-250) + (+150)$

(e) $(-380) + (-270)$

(f) $(-217) + (-100)$

Sol. (a) $11 + (-7) = 4.$

(b) $(-13) + 18 = 5.$

(c) $(-10) + (+19) = 9.$

(d) $(-250) + (+150) = -100.$

(e) $(-380) + (-270) = -650.$

(f) $(-217) + (-100) = -317.$

Q4. Find the sum of:

(a) **137 and -354**

(b) **-52 and 52**

(c) **-312, 39 and 192**

(d) **-50, -200 and 300**

Sol. (a) $(137) + (-354) = -217$

(b) $(-52) + (52) = 0.$

(c) $(-312) + (39) + (192)$

(d) $(-50) + (-200) + (300)$

$= (-312) + (231) = -81.$

$(-250) + 300 = 50.$

Q5. Find the value of:

(a) **137 and -354**

(b) **-52 and 52 + (-2) + (-65) + (-8)**

Sol. (a) $(-7) + (-9) + 4 + 16$

(b) $37 + (-2) + (-65) + (-8)$

$= (-16) + (20) = 4.$

$= 37 + (-75) = -38.$

EXERCISE 6.3**Q1. Subtract**

(a) **35 - (20)**

(b) **72 - (90)**

(c) **(-15) - (-18)**

(d) **(-20) - (13)**

(e) **23 - (-12)**

(f) **(-32) - (-40)**

Sol. (a) $35 - (20) = 15.$

(b) $72 - (90) = -18.$

(c) $(-15) - (-18)$

(d) $-20 - (13)$

$= (-15) + 18 = 3.$

$= -20 - 13 = -33.$

(e) $23 - (-12)$

(f) $(-32) - (-40)$

$= 23 + 12 = 35.$

$= (-32) + 40 = 8.$

Q2. Fill in the blanks with >, < or = sign.

(a) $(-3) + (-6)$ $(-3) - (-6).$

(b) $(-21) - (-10)$ $(-31) + (-11).$

(c) $45 - (-11)$ $57 + (-4).$

(d) $(-25) - (-42)$ $(-42) - (-25).$

Sol. (a) $(-3) + (-6) < (-3) - (-6)$ [$-9 < 3$].

(b) $(-21) - (-10) > (-31) + (-11)$ [$-11 > -42$].

(c) $45 - (-11) > 57 + (-4)$ [$56 > 53$].

(d) $(-25) - (-42) > (-42) - (-25)$ [$17 > -17$].

Q3. Fill in the blanks:

(a) $(-8) + \dots = 0$

(b) $13 + \dots = 0$

(c) $12 + (-12) = \dots$

(d) $(-4) + \dots = -12$

(e) $\dots - 15 = -10.$

Sol. (a) 8 (b) (-13) (c) 0 (d) (-8) (e) 5.

Q4. Find

(a) $(-7) - 8 - (-25)$

(b) $(-13) + 32 - 8 - 1$

(c) $(-7) + (-8) + (-90)$

(d) $50 - (-40) - (-2)$

Sol. (a) $(-7) - 8 - (-25)$

(b) $(-13) + 32 - 8 - 1$

$= -7 - 8 + 25$

$= (-13) + 32 - 9$

$= -15 + 25 = 10.$

$= (-13) + 23 = 10.$

(c) $(-7) + (-8) + (-90)$

(d) $50 - (-40) - (-2)$

$= -105.$

$= 50 + 40 + 2 = 92.$

TEXTBOOK QUESTIONS SOLVED

EXERCISE 7.1

