

## NCERT QUESTIONS WITH SOLUTIONS

### EXERCISE : 6.1

1. Write opposites of the following:

- (a) Increase in weight
- (b) 30 km north
- (c) 80 m East
- (d) Loss of ₹ 700
- (e) 100 m above sea level

**Sol.** (a) Decrease in weight

- (b) 30 km south
- (c) 80 m West
- (d) Gain of Rs 700
- (e) 100 m below sea level


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

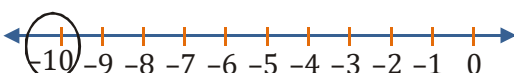
- (a) An aeroplane is flying at a height two thousand metre above the ground.
- (b) A submarine is moving at a depth, eight hundred metres below the sea level.
- (c) A deposit of rupees two hundred.
- (d) Withdrawal of rupees seven hundred.


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


3. Represent the following numbers on a number line:

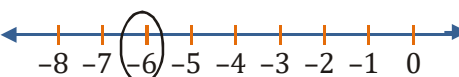
- (a) +5                                (b) -10
- (c) +8                                (d) -1
- (e) -6

**Sol.** (a) 

(b) 

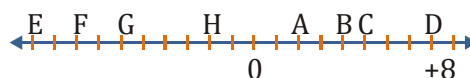
(c) 

(d) 

(e) 

4. Below 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 integer (-6)  
(c) Point B represents 4 and point E represents -10.  
(d) E has the least value as it represents -10.  
(e)  $D > C > B > A > H > G > F > E$
5. Following is the list of temperatures of five places in India on a particular day of the year.

Place	Temperature
Siachen	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.

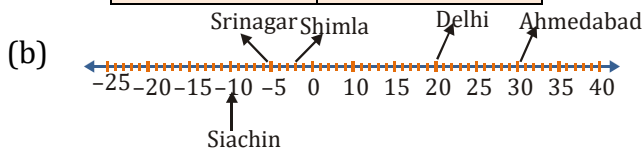


Plot the name of the city against its temperature.

- (c) Which is the coolest place?  
(d) Write the names of the places where temperatures are above  $10^{\circ}\text{C}$ .

**Sol.** (a)

Place	Temperature
Siachen	$-10^{\circ}\text{C}$
Shimla	$-2^{\circ}\text{C}$
Ahmedabad	$+30^{\circ}\text{C}$
Delhi	$+20^{\circ}\text{C}$
Srinagar	$-5^{\circ}\text{C}$



- (c) Siachen  
(d) Delhi, Ahmedabad
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

- Sol.** (a) 9 ( $9 > 2$ )              (b) -3 ( $-3 > -8$ )  
(c) 0 ( $0 > -1$ )              (d) 10 ( $10 > -11$ )  
(e) 6 ( $6 > -6$ )              (f) 1 ( $1 > -100$ )

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

- 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

8. (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

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.

**Sol.** (a) True ( $-8 > -10$ )

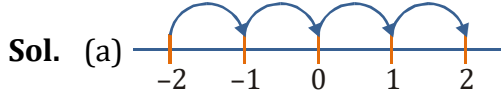
- (b) False ( $-50 > -100$ ) -100 is to the left of -50 on a number line.

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

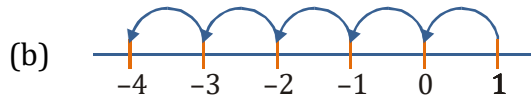
- (d) False, as -26 is smaller than -25.

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?



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



We will reach at -4, if we move 5 numbers to the left of 1.



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

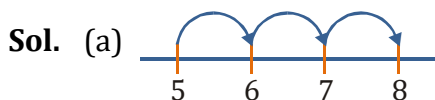


Clearly, -1 is to the right of -6. Therefore, we should move towards the right direction.

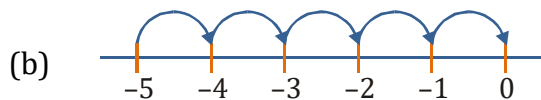
### EXERCISE : 6.2

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

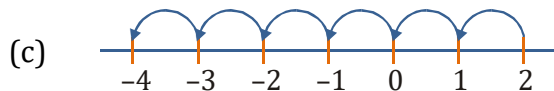
- (a) 3 more than 5      (b) 5 more than -5  
(c) 6 less than 2      (d) 3 less than -2



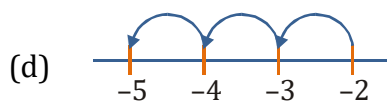
Hence, 8



Hence, 0



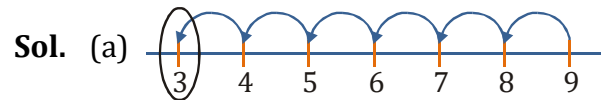
Hence, -4



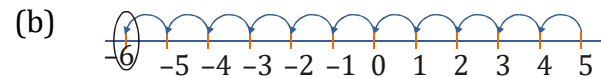
Hence, -5

2. Use number line and add the following integers:

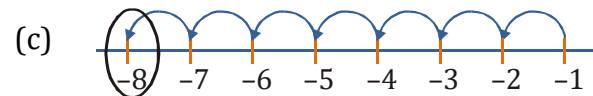
- (a)  $9 + (-6)$       (b)  $5 + (-11)$   
(c)  $(-1) + (-7)$       (d)  $(-5) + 10$   
(e)  $(-1) + (-2) + (-3)$       (f)  $(-2) + 8 + (-4)$



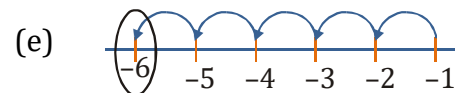
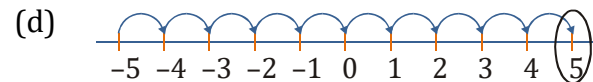
Hence, 8



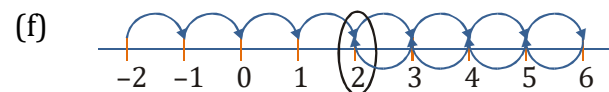
Hence, 0



Hence, -4



Hence, -4



Hence, -4

3. 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)  $11 + (-7) = 11 - 7 = 4$

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

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

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

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

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

4. Find the sum of:

- (a) 137 and -354      (b) -52 and 52  
(c) -312, 39 and 192      (d) -50, -200 and 300

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

(b)  $-52 + 52 = 0$

(c)  $-312 + 39 + 192 = -312 + 231 = -81$

(d)  $-50 + (-200) + 300 = -50 - 200 + 300 = -250 + 300 = 50$

5. Find the sum:

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

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

**Sol.** (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**

1. Find:

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

(d)  $-20 - 13 = -33$

(e)  $23 - (-12) = 23 + 12 = 35$

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

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

(a)  $(-3) + (-6)$  \_\_\_\_  $(-3) - (-6)$

(b)  $(-21) - (-10)$  \_\_\_\_  $(-31) + (-11)$

(c)  $45 - (-11)$  \_\_\_\_  $57 + (-4)$

(d)  $(-25) - (-42)$  \_\_\_\_  $(-42) - (-25)$

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

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

$-9 < 3$

Hence,  $(-3) + (-6)$   $<$   $(-3) - (-6)$

(b)  $-21 - (-10) = -21 + 10 = -11$

$-31 + (-11) = -31 + 11 = -42$

$-11 > -42$

$(-21) - (-10)$   $>$   $(-31) + (-11)$

(c)  $45 - (-11) = 45 + 11 = 56$

$57 + (-4) = 57 - 4 = 53$

$56 > 53$

$45 - (-11)$   $>$   $57 + (-4)$

(d)  $(-25) - (-42) = -25 + 42 = 17$

$-42 - (-25) = -42 + 25 = -17$

$17 > -17$

$(-25) - (-42)$   $>$   $(-42) - (-25)$

3. Fill in the blanks.

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

(b)  $13 +$  \_\_\_\_  $= 0$

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

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

(e) \_\_\_\_  $- 15 = -10$

**Sol.** (a)  $-8 + 8 = 0$

(b)  $13 + (-13) = 0$

(c)  $12 + (-12) = 0$

(d)  $-4 + (-8) = -12$

(e)  $5 - 15 = -10$

4. Find :

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

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

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

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

**Sol.** (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)  $50 - (-40) - (-2) = 50 + 40 + 2 = 92$