Chapter-4

Integers

Exercise 4.1 -

Ques 1) Represent each statement as an integer:

a) Pooja gained 3 inches in height.
= + 3 inches.

b) Rohit lost ₹ 20
= -₹ 20

c) Ginny lost 5 points in a game.
= -5 points.

d) Shikha has 2 t-shirts more than her sister.
= + 2 t-shirts

e) The price of potatoes increased by ₹ 5/kg in one week. = + ₹ 5/kg

f) Today the temperature is 5°C below freezing point
= -5°C

g) My salary increased by ₹ 1000.
= + ₹ 1000

h) The plant has grown by 4 inches in a fortnight
= + 4 inches.

Ques 2) Write the opposite statement of the following:

a) 10 feet below sea level

10 feet above sea level.

b) A 600 point raise in the sensex

A 600 point fall in the sensex.

c) A pay cut of ₹ 500

A pay raise of ₹ 500.

d) weight gain of 6 kg

weight loss of 6 kg

e) 20°C above 0°C.

20°C below 0°C.

f) 200 m above sea level

200 m below sea level.

g) Gain of ₹ 50

Loss of ₹ 50.

h) Opposite of +380

Opposite of -380

Ques 3) In each given pair of integers, find which of the two integers is to left of the other integer on a number line:

a) -4, -14
-14

b) -2, 2
-2

c) 0, -6
-6

d) -1, 8
-1

Ques 4) Fill in the blanks with <, > sign:

a) -4 > -9

b) -12 < -3

c) -5 < 3

d) 8 > -4

e) 0 > -10

f) -6 > -18

g) -22 < -12

h) 13 > -10

i) -28 < 2

Ques 5) Find integers that are 'one less than' and 'one more than' the given number:

Ans

Integers	One less than	One more than
a. 0	-1	1
b. -11	-12	-10
c. 19	18	20
d. -50	-51	-49
e. 100	99	101
f. -101	-102	-99
g. 99	98	100
h. -1	-2	0

Ques 6) a) Arrange in ascending order:

-9, -2, -12, -3, 0, -17, 4, 8, -14

Ans -17, -14, -12, -9, -3, -2, 0, 4, 8

b) Arrange in descending order:

-23, -17, -29, -6, -15, -22, 0, -2, 5, 11

Ans 11, 5, 0, -2, -6, -15, -17, -22, -23, -29

Ques 7) Find all the integers lying between the pair of integers given below. Also, find smallest and the largest of these numbers:

a) -21 and -27

Ans: Numbers lying between -21 and -27 = -22, -23, -24, -25, -26

Smallest = -26
Largest = -22

b) -36 and -42

Ans: Numbers lying between -36 and -42 = -37, -38, -39, -40, -41

Smallest = -41
Largest = -37

Ques 8) Write the absolute value of the following:

a) $|-10| = 10$

b) $|99| = 99$

c) $|-101| = 101$

d) $|78| = 78$

e) $|-9| = 9$

f) $|100| = 100$

g) $|-99| = 99$

h) $|501| = 501$

Ques 9) Evaluate the following:

a) $|20-9| = |11| = 11$

b) $|16-7| = |9| = 9$

c) $|3-(9-1)| = |3-8| = |5| = 5$

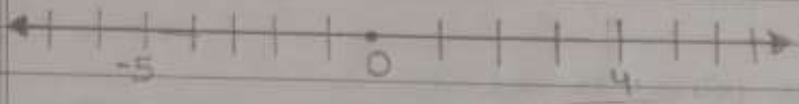
d) $|15-(20-11)| = |15-9| = |6| = 6$

e) $|21-(39-11)| = |21-28| = |-7| = 7$

f) $|28-(32-15)| = |28-17| = |11| = 11$

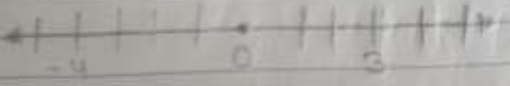
Ques 10) Mark the points 4, -5 on a number line and also find the distance between them.

Ans



Distance = 9 units

Ques 11) Mark the points 3, -4 on a number line and also find the distance between them

Ans- 

Distance between them: 7 units

Ques-12) use absolute value concept to find the distance between:

a. two points 'S' and 'T' such that, point 'S' is 9m away from the origin towards right and point 'T' is 2m away from the origin in the opposite direction.

Ans- Point 'S' = 9m
Point 'T' = 2m

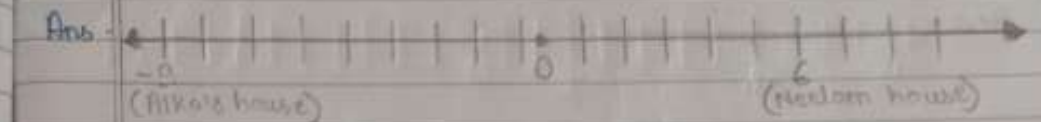
Distance between two points 'S' and 'T'
= |9m| + |2m|
= 9m + 2m
= 11m

b. the points: 26 and -17

Ans- |26| + |-17|
= 26 + 17
= 43

Ques-13) Alka, Neelam, Anju and Chander live in house in a lane where the houses are numbered as on a number line. The house number are as follows:
Alka: -9, Neelam: 6, Anju: -12, Chander: -5.
If there is a house numbered '0' also, find:

a. How many houses are there between Alka's house and Neelam's house?

Ans- 

-9 to 0 and 1 to 6
= |-9| + |5|
= 9 + 5
= 14

Ans- 14 houses

b. How many houses are there between Anju's and Chander's house?

Ans- 

|-12| + |-5|
= 12 + 5
= 17

Ans- 17 houses

No. of houses upto Anju's house = 11
No. of houses upto Chander's house = 5
Houses between = 11 - 5
= 6

Ans- 6 houses

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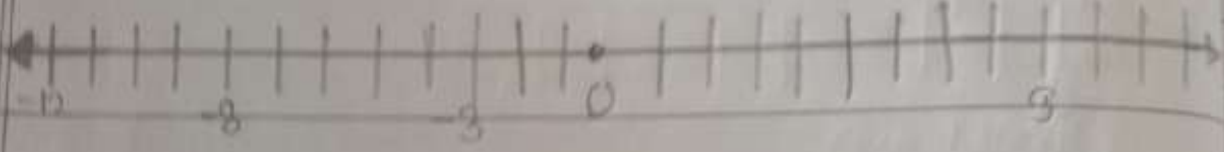
Ques 12) A delivery man has to deliever packets to four houses which are numbered as on a number line. He has packets for house number 9, -8, -3 and -12. If he has delievered the packet at house no. 9, write the order in which he should deliever the packets to minimise his walk.

Ans-



Order in which he delievered packets = 9, -3, -8, -12.