

EXERCISE 7(A)

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1. Fill in the blanks, using the following number line:



(i) An integer, on the given number line, is than every number on its left.

(ii) An integer on the given number line is greater than every number to its

(iii) 2 is greater than -4 implies 2 is to the of -4.

(iv) -3 is than 2 and 3 is than -2.

(v) -4 is than -8 and 4 is than 8.

(vi) 5 is than 2 and -5 is than -2.

(vii) -6 is than 3 and the opposite of -6 is than opposite of 3.

(viii) 8 is than -5 and -8 is than 5.

Solution:

(i) An integer, on the given number line, is greater than every number on its left.

(ii) An integer, on the given number line, is greater than every number to its left.

(iii) 2 is greater than -4 implies 2 is on the right of -4

(iv) -3 is less than 2 and 3 is greater than -2

(v) -4 is greater than -8 and 4 is less than 8

(vi) 5 is greater than 2 and -5 is less than -2

(vii) -6 is <u>less</u> than 3 and the opposite of -6 is <u>greater</u> than opposite of 3

(viii) 8 is greater than -5 and -8 is less than -5

2. In each of the following pairs, state which integer is greater :

(i) – 15, - 23

(ii) – 12, 15

(iii) **0, 8**

(iv) 0, - 3

Solution:

(i) -15, -23

-15 lies on the right side of -23 on the number line. Therefore, -15 is greater than -23 (ii) -12, 15

15 lies on the right side of -12 on the number line. Hence, 15 is greater than -12 (iii) 0, 8

8 lies right side of 0 on the number line. Therefore, 8 is greater than 0

(iv) 0, -3

0 lies on the right side of -3 on the number line. Hence, 0 is greater than -3



3. In each of the following pairs, state which integer is smaller :

(i) 0, - 6
(ii) 2, - 3
(iii) 15, - 51
(iv) 13, 0
Solution:
(i) -6 lies on the left side of 0 on the number line. Hence, -6 is smaller than 0
(ii) -3 lies on the left side of 2 on the number line. Therefore, -3 is smaller than 2

(iii) -51 lies on the left side of 15 on the number line. Hence, -51 is smaller than 15

(iv) 0 lies on the left side of 13 on the number line. Therefore, 0 is smaller than 13

4. In each of the following pairs, replace * with < or > to make the statement true:

(i) **3** * **0** (ii) 0 * - 8 (iii) - 9 * - 3(iv) - 3 * 3(v) 5 * - 1(vi) - 13 * 0(vii) - 8 * - 18 Solution: (i) 3 lies on the right side of 0 on the number line Hence, 3 is greater than 0 (ii) 0 lies on the right side of -8 on the number line Therefore, 0 is greater than -8 (iii) -9 lies on the left side of -3 on the number line Hence, -9 is smaller than -3 (iv) -3 lies on the left side of 3 on the number line Therefore, -3 is smaller than 3 (v) 5 lies right side of -1 on the number line Hence, 5 is greater than -1 (vi) -13 lies left side of 0 on the number line

Therefore, -13 is smaller than 0

(vii) -8 lies on the right side of -18 on the number line

Hence, -8 is greater than -18

5. In each case, arrange the given integers in ascending order, using a number line:
(i) -8, 0, -5, 5, 4, -1
(ii) 3, -3, 4, -7, 0, -6, 2
Solution:



(i) -8, 0, -5, 5, 4, -1

Draw a number line and mark the given integers in ascending order as -8, -5, -1, 0, 4, 5 on the number line as shown below



(ii) 3, -3, 4, -7, 0, -6, 2

Draw a number line and mark the given integers in ascending order as -7, -6, -3, 0, 2, 3, 4 on the number line as shown below



6. In each case, arrange the given integers in descending order, using a number line:
(i) -5, -3, 8, 15, 0, -2
(ii) 12, 23, -11, 0, 7, 6

Solution:

(i) -5, -3, 8, 15, 0, -2

Draw a number line and mark the given integers on it. Arranging these integers in descending order 15, 8, 0, -2, -3, -5 as shown below on the number line



(ii) 12, 23, -11, 0, 7, 6

Draw a number line and mark the given integers on it. Arranging these integers in descending order 23, 12, 7, 6, 0, -11 as shown below on the number line





- 7. For each of the statements given below, state whether it is true or false:
- (i) The smallest integer is 0.
- (ii) The opposite of -17 is 17
- (iii) The opposite of zero is zero
- (iv) Every negative integer is smaller than 0
- (v) 0 is greater than every positive integer
- (vi) Since zero is neither negative nor positive, it is not an integer

Solution:

- (i) False
- (ii) True
- (iii) True
- (iv) True
- (v) False
- (vi) False



EXERCISE 7(B)

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1. Use a number line to evaluate each of the following:

1. (i) (+7) + (+4)**(ii)** 0 + (+6)(iii) (+5) + 00 + (-2)2. (i) (-4) + (+5)**(ii)** (iii) (-1) + (+4)3. (i) (+4) + (-2)**(ii)** (+3) + (-6)(iii) 3 + (-7)4. (i) (-1) + (-2)(ii) (-3) + (-4)(iii) (-2) + (-5)5, (i) (+10) - (+2)(ii) (+8) - (-5)(iii) (-6) - (+2)(+4) - (-2)(-8) - (-4)(iv) (-7) - (+5)**(v) (vi) Solution:**

Solution:

1. (i) (+7) + (+4)

Move 7 units to the right of zero for (+7) and move 4 units to the right of +7 for (+4)



Hence, (+5) + 0 = +5







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Hence, (-4) + (+5) = +1
(ii) 0 + (-2)
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No movement for 0 and move 2 units to the left of 0 for -2



Hence, 0 + (-2) = -2(iii) (-1) + (+4)Move 1 unit to the left of 0 for (-1) and move 4 units to the right of -1 for (+4)



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Hence, (-1) + (+4) = +3
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3. (i) (+4) + (-2) Move 4 units to the right of 0 for (+4) and move 2 units to the left of +4 for (-2)



Hence, (+4) + (-2) = +2(ii) (+3) + (-6)

Move 3 units to the right of 0 for (+3) and move 6 units to the left of 3 for (-6)





Hence, (+3) + (-6) = -3(iii) 3 + (-7)

Move 3 units to the right of 0 for (3) and move 7 units to the left of 3 for (-7)



4. (i) (-1) + (-2)

From 0, move 1 unit to the left for (-1) and move 2 units to the left of -1 for (-2)



Hence, (-1) + (-2) = -3(ii) (-3) + (-4)

From 0, move 3 units to the left for (-3) and move 4 units to the left of -3 for (-4)



Hence, (-3) + (-4) = -7(iii) (-2) + (-5)

Move 2 units to the left from 0 for (-2) and move 5 units to the left of -2 for (-5)





Hence, (-2) + (-5) = -7

5. (i) (+10) - (+2)From +2, it took 8 steps to reach the position of number +10 to the right



From +5, it took 12 steps towards left to reach -7





Hence, (-7) - (+5) = -12(v) (+4) - (-2)From +4, it took 6 steps towards left to reach the number -2



- 6. Using a number line, find the integer which is:
- (i) 3 more than -1
- (ii) 5 less than 2
- (iii) 5 more than -9
- (iv) 4 less than -4
- (v) 7 more than 0
- (vi) 7 less than -8

Solution:

- (i) 3 more than -1
- To get 3 more than -1, from -1 move 3 units to the right of -1 to get 2







Therefore, 7 more than 0 = 7(vi) 7 less than -8 To get 7 less than -8, from -8 move 7 units to the left of -8 to get -15

