## Section A

**Q1. In a game, a player scores +15 points in the first round, loses 8 points in the second round, and gains 6 points in the third round. What is the total score after three rounds?**

**Answer:**

- Points after the first round = +15
- Points lost in the second round = -8
- Points gained in the third round = +6

Total score = 15 + (-8) + 6 = 15 - 8 + 6 = **13 points**

So, the total score after three rounds is **13 points**.

**Q2. A mountain climber starts at an elevation of 300 meters above sea level. He ascends 200 meters, then descends 500 meters. What is his final elevation?**

**Answer:**

- Initial elevation = +300 meters (above sea level)
- Ascend = + 200 meters
- Descend = - 500 meters

First, calculate the elevation after ascending:

300 + 200 = 500 meters (above sea level)

Now, calculate the elevation after descending:

500 − 500 = 0 meters (sea level) 500 - 500 = 0

So, the final elevation of the mountain climber is **0 meters** (sea level).

**Q3. A submarine is 150 meters below sea level. It rises 90 meters, then sinks 120 meters. What is the current position of the submarine?**

**Answer:**

- Initial position = -150 meters (below sea level)

- Rise = +90 meters
- Sink = -120 meters

Position after rising = -150 + 90 = **-60 meters**

Position after sinking = - 60 + (-120) = - 60 - 120 = **- 180 meters**

So, the submarine is currently **180 meters below sea level**.

**Q4. The temperature in a city is 3°C below zero in the morning. It increases by 7°C at noon and then decreases by 5°C in the evening. What is the temperature in the evening?**

**Answer:**

- Temperature in the morning = -3°C (since it's 3°C below zero)
- Increase in temperature = +7°C
- Decrease in temperature = -5°C

Temperature at noon = -3 + 7 = **+ 4°C**

Temperature in the evening = 4 + (-5) = 4 - 5 = **- 1°C**

So, the temperature in the evening is **- 1°C**.

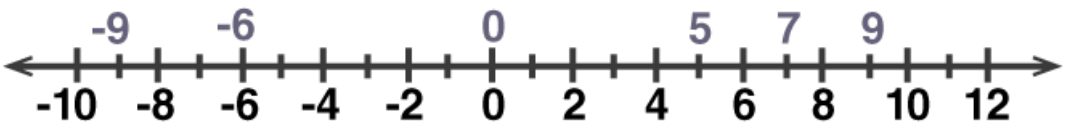
## Section B

**Q5. Use a number line to write the following integers in ascending (increasing) order:**

**(i) -6, 7, 0, -9, 5 and 9**

**Answer:**

**Draw a number line for given integers and mark on it all the integers as shown below**




Hence, the given integers in the ascending order are:

-9 < -6 < 0 < 5 < 7 < 9

**Q6. Evaluate:**

(i) |-13| – |-15|

(ii) |35 – 41| – |7 - (-2)|

**Answer:**

**(i) |-13| – |-15|**

= 13 – 15 = - 2

**(ii) |35 – 41| – |7 - (- 2)|**

= 6 – 9 = - 3

**Q7. Evaluate the following:**

(i) -77 + (-84) + 318

(ii) 54 + (-218) – (-76)

(iii) -121 – (-78) + (-193) + 576

(iv) -65 + (-76) – (-28) + 32

**Answer:**

**(i) -77 + (-84) + 318**

= −77 + (−84) + 318

=−77 – 84 + 318

= −(77 + 84) + 318

= −(161) + 318

= −161 + 318 = **157**

**(ii) 54 + (-218) – (-76)**

= 54− 218 + 76

= (54 + 76) – 218

= 130 – 218 = - 88

**(iii) - 121 – (-78) + (- 193) + 576**

= −121 − (−78) + (−193) + 576

= −121 + 78 – 193 + 576

=−121 −193 + 78 + 576

= −(121 + 193) + 78 + 576

= −(314) + 654

= 654 – 314 = 340

**(iv) -65 + (-76) – (-28) + 32**

= − 65 + (−76) − (−28) + 32

= − 65 – 76 + 28 + 32

= − (65 + 76) + 60

= - 141 + 60 = - 81

**Q8. (−12) × (−9) − 6 × (−8) is equal to**

**(a) 156 (b) 60 (c) −156 (d) – 60**

**Answer: (a) 156**

It can be written as

(−12) × (−9) − 6 × (−8)

= (12 × 9) − 6 × (−8)

= 108 − 6 × (−8)

On further calculation

(−12) × (−9) − 6 × (−8)

= 108 + 6 × 8 = 108 + 48

= **156**

**9. 86 + (- 28) + 12 + (- 34) is equal to**

**(a) 36 (b) – 36 (c) 6 (d) – 6**

**Answer: (a) 36**

It can be written as

86 + (−28) + 12 + (−34)

= 86 + (−28) − (34 − 12)

= 86 + (−28) − 22

On further calculation

86 + (−28) + 12 + (−34)

= (86 − 28) − (34 − 12)

= (86 − 28) – 22

= 58 − 22

= **36**

**10. Replace * by < or > in each of the following to make the statement true:**

**(i) (-6) + (-9) * (-6) – (-9)**

**(ii) (-12) – (-12) * (-12) + (-12)**

**(iii) (-20) – (-20) * 20 – (65)**

**(iv) 28 – (-10) * (-16) – (-76)**

**Answer:**

(i) (-6) + (-9) < (-6) – (-9)

(ii) (-12) – (-12) > (-12) + (-12)

(iii) (-20) – (-20) > 20 – (65)

(iv) 28 – (-10) < (-16) – (-76)

**Q11. Evaluate the following:**

**(i) – 8 – 24 + 31 – 26 – 28 + 7 + 19 – 18 – 8 + 33**

**(ii) – 26 – 20 + 33 – (-33) + 21 + 24 – (-25) – 26 – 14 – 34**

**Answer:**

**(i) – 8 – 24 + 31 – 26 – 28 + 7 + 19 – 18 – 8 + 33**

We get

= – 8 – 24 – 26 – 28 – 18 – 8 + 31 + 7 + 19 + 33

On further calculation

= – 32 – 26 – 28 – 26 + 38 + 19 + 33

It can be written as

= 38 – 32 – 26 – 28 + 33 – 26 + 19

So we get

= 6 – 26 – 28 + 7 + 19

By calculation

= 6 – 28 – 26 + 26

= 6 – 28

By subtraction

= **– 22**

**(ii) – 26 – 20 + 33 – (-33) + 21 + 24 – (-25) – 26 – 14 – 34**

We get

= – 46 + 33 + 33 + 21 + 24 + 25 – 26 – 14 – 34

On further calculation

= – 46 + 66 + 21 + 24 + 25 + (-74)

It can be written as

= – 46 + 66 + 70 – 74

So we get

= – 46 – 4 + 66

By calculation

= – 50 + 66

= 66 – 50

By subtraction

= **16**

## Section C

**Q12. Subtract the sum of – 1250 and 1138 from the sum of 1136 and – 1272.**

**Answer:**

We know that the sum of – 1250 and 1138 is

-1250 + 1138

It can be written as

= 1138 – 1250

So, we get

= – 112

We know that the sum of 1136 and – 1272 is

1136 – 1272 = – 136

So, we get

-136 – (-112) = – 136 + 112 = **-24**

**Q13. The sum of two integers is − 16. If one of them is 53, find the other.**

**Answer:**

Let the other integer be a. Then, we have:

53 + a = −16

⇒ a = −16 − 53 = −69

∴ The other integer is **–69.**

**Q14. Subtract: -233 from – 33**

**Answer:**

On subtracting, we get

= - 33 - (- 233)

= - 33 + 233

= **200**

## **Section D** (BODMAS)

**Q15. Simplify the expression using the BODMAS rule [18 – 2 (5 + 1)] ÷ 3 + 7.**

**Answer:**

Input Equation can be rewritten:

= [18 – 2 * (5 + 1)] / 3 + 7

= [18 – 2 * (6)] / 3 + 7

= [18 – 2 * 6] / 3 + 7

= [18 – 12] / 3 + 7

= [6] / 3 + 7

= (6 / 3) + 7

= 2 + 7

= 9

**Q16. Evaluate: [(18 – 6) ÷ 4] + [72 – 12 ÷ 3 of 2]**

**Answer:**

[(18 – 6) ÷ 4] + [72 – 12 ÷ 3 of 2]

= [(18 – 6) ÷ 4] + [72 – 12 ÷ (3 × 2)]

= [12 ÷ 4] + [72 – 12 ÷ 6]

= 3 + [72 – 2] = 3 + 70 = 73.

**Q17. Simplify the given expression: 180 ÷ 15 {(12 – 6) – (14 – 12)}.**

**Answer:**

Initially, the first ( ) brackets are simplified,

180 ÷ 15 {(12 – 6) – (14 – 12)}

= 180 ÷ 15 (6 − 2) (solve round bracket)

= 180 ÷ 15 (4) (solve curly bracket)

= 12 (4) (divide 180 by 15 = 12)

= 12 × 4 (if no operator is mentioned behind any given bracket, multiplication operation can be performed)

= 48

The final answer is 48.

**Q18. Evaluate: [(18 – 6) ÷ 4] + [72 – 12 ÷ 3 of 2]**

**Answer:**

[(18 – 6) ÷ 4] + [72 – 12 ÷ 3 of 2]

= [(18 – 6) ÷ 4] + [72 – 12 ÷ (3 × 2)]

= [12 ÷ 4] + [72 – 12 ÷ 6]

= 3 + [72 – 2] = 3 + 70 = 73.

**Q19. 100 – [{60 ÷ $\overline{3+2}$ ÷ { ( 5 of 3 ) ÷ $\overline{1+4}$ } ] of $\overline{12+13}$**

**Answer:**

= 100 – [ {60 ÷ 5} ÷ {15 ÷ 5}] of $\overline{12+13}$

= 100 – [ 12 ÷ 3] of 25

= 100 - 4 of 25

= 100 – 100 = 0