

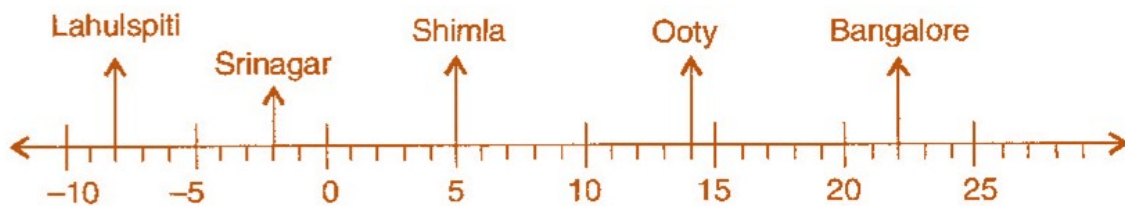
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## NCERT Class 7 Solutions: Integers (Chapter 1) Exercise 1.1 – Part 1

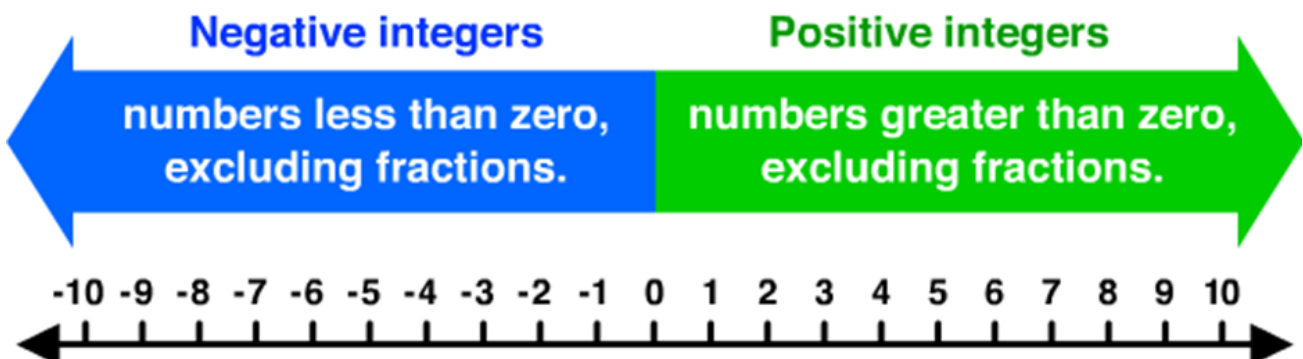
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Q-1 Following number line shows the temperature in degree Celsius ( $^{\circ}\text{C}$ ) at different places on a particular day:



1. Observe this number line and write the temperature of the place marked on it.
2. What is the temperature difference between the hottest and the coldest place among the above?
3. What is the temperature difference between Lahulspiti and Srinagar?
4. Can we say temperature of Srinagar and Shimla taken together is less than the temperature at Shimla? Is it also less than the temperature at Srinagar?

Following figure shows operations with negative integers:





Addition

Positive + Positive = Positive

Negative + Negative = Negative

Positive + Negative or Negative + Positive

• use the larger number and its sign, subtract

$5 + 3 = 8$

$(- 5) + (- 3) = - 8$

$(- 5) + 3 = - 2$

$3 + (- 5) = - 2$

$(- 3) + 5 = 2$

$5 + (- 3) = 2$

Subtraction

Negative - Positive = Negative

Positive - Negative = Positive

Negative - Negative = Negative + Positive

• use the larger number and its sign, subtract

$(- 5) - 3 = (- 5) + (- 3) = - 8$

$5 - (- 3) = 5 + 3 = 8$

$(- 5) - (- 3) = (- 5) + 3 = - 2$

$(- 3) - (- 5) = (- 3) + 5 = 2$

Multiplication

Positive x Positive = Positive

Negative x Negative = Positive

Negative x Positive = Negative

Positive x Negative = Negative

• change double negatives to a positive

$5 \times 3 = 15$

$(- 3) \times (- 5) = 15$

$(- 3) \times 5 = - 15$

$3 \times (- 5) = - 15$

Division

Positive ÷ Positive = Positive

Negative ÷ Negative = Positive

Negative ÷ Positive = Negative

Positive ÷ Negative = Negative

• change double negatives to a positive

$15 \div 3 = 5$

$(- 15) \div (- 3) = 5$

$(- 15) \div 3 = - 5$

$15 \div (- 3) = - 5$

Solution:

The above scale shows temperature on a scale. The longer marks on the scale are marked at difference of  $5^{\circ}\text{C}$  each small mark is at difference of  $1^{\circ}\text{C}$  .

1. Temperature and places are given in following table

Place	Temperature ( $^{\circ}\text{C}$ )
Lahulspiti	-8
Srinagar	-2
Shimla	5
Ooty	14
Bengaluru	22

Table of Temperatures of Places

1. The hottest place is Bengaluru, with temperature
- Bengaluru =  $22^{\circ}\text{C}$

The coldest place is Lahulspiri, with temperature

$$\text{Lahulspiri} = -8^{\circ}\text{C}$$

$$\text{Difference} = 22^{\circ}\text{C} - (-8^{\circ}\text{C})$$

$$\text{Difference} = 22^{\circ}\text{C} + 8^{\circ}\text{C}$$

$$\text{Difference} = 30^{\circ}\text{C}$$

$$1. \text{ The temperature of Srinagar} = -2^{\circ}\text{C}$$

$$\text{The temperature of Lahulspiri} = -8^{\circ}\text{C}$$

$$\text{Difference} = -2^{\circ}\text{C} - (-8^{\circ}\text{C})$$

$$\text{Difference} = -2^{\circ}\text{C} + 8^{\circ}\text{C}$$

$$\text{Difference} = 6^{\circ}\text{C}$$

Note that the difference is always positive.

$$1. \text{ The temperature of Srinagar and Shimla} = 5^{\circ}\text{C} + (-2^{\circ}\text{C})$$

$$\text{The temperature of Srinagar and Shimla} = 5^{\circ}\text{C} - 2^{\circ}\text{C} = 3^{\circ}\text{C}$$

$$\text{The temperature at Shimla} = 5^{\circ}\text{C}$$

$$\text{Since, } 3^{\circ}\text{C} < 5^{\circ}\text{C}$$

Thus, temperature of Srinagar and Shimla taken together is less than the temperature at Shimla.

$$\text{Now, Temperature of Srinagar} = -2^{\circ}\text{C}$$

$$\text{Therefore, } 3^{\circ}\text{C} > -2^{\circ}\text{C}$$

No, it is not less than the temperature at Srinagar.

Q-2 In a quiz, positive marks are given for correct answers and negative marks are given for incorrect answers. If Jack's scores in five successive rounds were 25, -5, -10, 15 and 10, what was his total at the end?

Solution: If Jack's scores in five successive rounds are 25, -5, -10, 15 and 10 His total marks are  $25 + (-5) + (-10) + 15 + 10$

$$= 25 - 15 + 25$$

$$= 35$$

Thus, Jack got 35 marks in the quiz.

Q-3 At Srinagar temperature was  $5^{\circ}\text{C}$  on Monday and then it dropped by  $2^{\circ}\text{C}$  on Tuesday. What was the temperature of Srinagar on Tuesday? On Wednesday, it rose by  $4^{\circ}\text{C}$ . what was the temperature on this day?

Solution:

- On Monday, temperature at Srinagar =  $-5^{\circ}\text{C}$
- On Tuesday, temperature dropped =  $2^{\circ}\text{C}$
- $\therefore$  Temperature on Tuesday =  $-5^{\circ}\text{C} - 2^{\circ}\text{C} = -7^{\circ}\text{C}$
- On Wednesday, temperature rose up =  $4^{\circ}\text{C}$
- $\therefore$  Temperature on Wednesday =  $-7^{\circ}\text{C} + 4^{\circ}\text{C} = -3^{\circ}\text{C}$
- Thus, temperature on Tuesday and Wednesday was  $-7^{\circ}\text{C}$  and  $-3^{\circ}\text{C}$  respectively.