Board –CBSE	Class – 6th	Topic – Algebra Ex:11.4

Exercise 11.4

1. Answer the following:

(a) Take Sarita's present age to be y years.

(i) What will be her age 5 years from now?

(ii) What was her age 3 years back?

(iii) Sarita's grandfather is 6 times her age. What is the age of her grandfather?

(iv) Grandmother is 2 years younger than grandfather. What is grandmother's age?

(v) Sarita's father's age is 5 years more than 3 times Sarita's age. What is her father's age?

(b) The length of a rectangular hall is 4 meters less than 3 times the breadth of the hall. What is the length, if the breadth is b meters?

(c) A rectangular box has a height of h cm. Its length is 5 times the height and breadth is 10 cm less than the length. Express the length and the breadth of the box in terms of height.

(d) Meena, Beena, and Leena are climbing the steps to the hilltop. Meena is at step s, Beena is 8 steps ahead, and Leena is 7 steps behind. Where are Beena and Meena? The total number of steps to the hilltop is 10 less than 4 times what Meena has reached. Express the total number of steps using s.

(e) A bus travels at v km per hour. It is going from Daspur to Beespur. After the bus has traveled 5 hours, Beespur is still 20 km away. What is the distance from Daspur to Beespur? Express it using v.

Ans. (a) Sarita's age is given y years.

(i) After 5 years from now, her age will be $(y + 5)$ years.

(ii) 3 years back from now, she was $(y - 3)$ years of age.

(iii) Age of her grandfather $= 6y$ years.

(iv) Age of her grandmother $= (6y - 2)$ years.

(v) Sarita's father's age $= (3y + 5)$ years.

(b) Let T be the length of the rectangular hall

$\therefore$ length $= (3b - 4)$ metre

Where b represents the breadth.

(c) Height of the rectangular box is 'h'

$\therefore$ Length $= 5h$ cm

and Breadth $= (5h - 10)$ cm.

(d) Meena is at step s.

$\therefore$ Beena is at $(s + 8)$ steps and Leena is at $(s - 7)$ steps.

Total number of steps onto the hilltop $= (4s - 10)$

(e) Distance traveled by Bus in 5 hours $= 5v$ km.

∴ Distance from Daspur to Beespur = (5v + 20) km.

2. Change the following statements using expressions into statements in ordinary language.

(For example, Given Salim scores r runs in a cricket match, Nalin scores (r + 15) runs.

In ordinary language – Nalin scores 15 runs more than Salim.

(a) A notebook costs ₹ p. A book costs ₹ 3p.

(b) Tony puts q marbles on the table. He has 8q marbles in his box.

(c) Our class has n students. The school has 20n students.

(d) Jaggu is 2 years old. His uncle is 42 years old and his aunt is (4z – 3) years old.

(e) In an arrangement of dots there are r rows. Each row contains 5 dots.

Ans. (a) A book costs 3 times the cost of a notebook.

(b) Tony has 8 times the number of marbles put on the table by him.

(c) The school has 20 times the number of students in a class.

(d) Jaggu's uncle's age is 4 times his age and his aunt's age is 3 years less than the age of his uncle.

(e) Number of dots in a row is 5 times the number of rows.

3. (a) Given Mannu's age to be x years, Can you guess what (x – 2) may show?

(Hint: Think of Mannu's younger brother) can you guess what (x + 4) may now? What (3x + 7) may show?

(b) Given Sara's age today to be y years. Think of her age in the future or in the past.

What will the following expression indicate?

$y + 7, y - 3, y + 4\frac{1}{2}, y - 2\frac{1}{2}$

(c) Given n students in the class like football, what may 2n show? What may $\frac{n}{2}$ show?

(Think of games other than football).

Ans. (a) Given that Mannu's age = x years.

∴ (x – 2) years may be the age of her younger brother or younger sister.

(x + 4) years show the age of her elder brother or elder sister.

(3x + 7) years may be the age of her father, mother, or uncle.

(b) y represents the age of Sara in years.

∴ y + 7 shows her future age.

y – 3 shows her past age.

$y + 4\frac{1}{2}$ show her future age i.e., the age after z four and half years.

$y - 2\frac{1}{2}$ shows her past age i.e., the age before two and half years.

(c) Number of students who like football = n

∴ 2n = twice the number of football players who may like to play cricket.

and $\frac{n}{2}$ = half of the number of football 2

players may like to play basketball.