PRACTICE QUESTIONS
CLASS VI: CHAPTER – 11
ALGEBRA

1. Students are marching in a parade. There are 3 cadets in a row. What is the rule which gives the number of cadets, given the number of rows? (Use n for the number of rows.)

2. If there are 20 mangoes in a box, how will you write the total number of mangoes in terms of the number of boxes? (Use b for the number of boxes.)

3. The teacher distributes 4 pencils per student. Can you tell how many pencils are needed, given the number of students? (Use s for the number of students.)

4. A bird flies 5 kilometer in one minute. Can you express the distance covered by the bird in terms of its flying time in minutes? (Use t for flying time in minutes.)

5. Vandana is Meghna's younger sister. Vandana is 4 years younger than Meghna. Can you write Vandana 's age in terms of Meghna 's age? Take Meghna 's age to be x years.

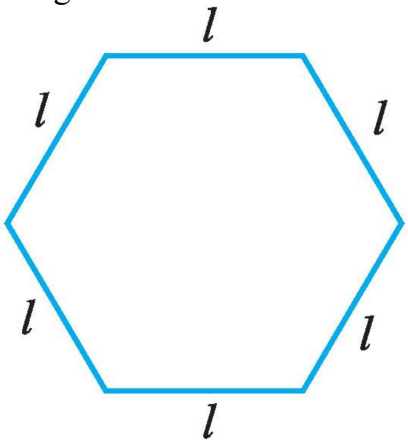
6. Father has brought laddus. He gives some laddus to guests and family members; still 9 laddus remain. If the number of laddus father gave away is l, how many laddus did he brought?

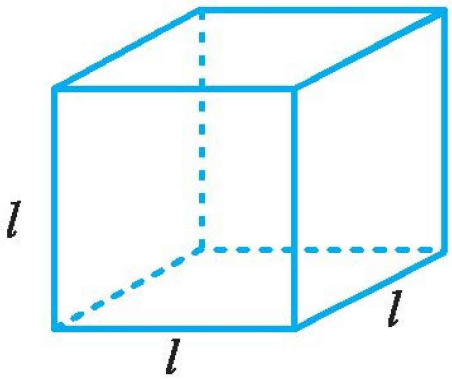
7. Apples are to be transferred from larger boxes into smaller boxes. When a large box is emptied, the apples from it fill three smaller boxes and still 20 apples remain outside. If the number of apples in a small box are taken to be x, what is the number of apples in the larger box?

8. Radha is drawing a dot Rangoli (a beautiful pattern of lines joining dots with chalk powder. She has 10 dots in a row. How many dots will her Rangoli have for r rows? How many dots are there if there are 9 rows? If there are 12 rows?

9. The side of an equilateral triangle is denoted by l. Express the perimeter of the equilateral triangle using l.

10. The side of a regular hexagon (shown in below left fig.) is denoted by l. Express the perimeter of the hexagon using l.





11. A cube is a three-dimensional figure as shown in above sided right Fig . It has six faces and all of them are identical squares. The length of an edge of the cube is given by l. Find the formula for the total length of the edges of a cube.

12. Give expressions in the following cases.
(a) 11 added to $2m$
(b) 11 subtracted from $2m$
(c) 5 times y to which 3 is added
(d) 5 times y from which 3 is subtracted
(e) y is multiplied by – 8
(f) y is multiplied by – 8 and then 5 is added to the result
(g) y is multiplied by 5 and the result is subtracted from 16
(h) y is multiplied by – 5 and the result is added to 16.

13. (a) Form expressions using t and 4. Use not more than one number operation. Every expression must have t in it.
(b) Form expressions using y, 2 and 7. Every expression must have y in it. Use only two number operations. These should be different.

14. Express the following situations in statements using expressions:

- Sarita has 10 more marbles than Ameena.
- Balu is 3 years younger than Raju.
- Bikash is twice as old as Raju.
- Raju's father's age is 2 years more than 3 times Raju's age.
- How old will Susan be 5 years from now?
- How old was Susan 4 years ago?
- Price of wheat per kg is Rs 5 less than price of rice per kg.
- Price of oil per litre is 5 times the price of rice per kg.
- The speed of a bus is 10 km/hour more than the speed of a truck going on the same road.

15. 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?

16. Complete the entries in the third column of the table.

Equation	Value of the variable	Solution (Yes/No)
x + 10 = 30	x = 10	
x + 10 = 30	x = 30	
x + 10 = 30	x = 20	
p – 3 = 7	p = 5	
p – 3 = 7	p = 15	
p – 3 = 7	p = 10	
3n = 21	n = 9	
3n = 21	n = 7	
$\frac{t}{5} = 4$	t = 25	
$\frac{t}{5} = 4$	t = 20	
$\frac{t}{5} = 4$	t = 30	
2m + 3 = 7	m = 5	
2m + 3 = 7	m = 1	
2m + 3 = 7	m = 2	

17. Complete the table and by inspection of the table find the solution to the equation $m + 9 = 16$.

m	1	2	3	4	5	6	7	8	9	10	11	12	13
m + 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

18. Complete the table and by inspection of the table find the solution to the equation $n - 2 = 10$.

n	1	2	3	4	5	6	7	8	9	10	11	12	13
n – 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

20. Change the following statements using expressions into statements in ordinary language.
(a) A notebook costs Rs p. A book costs Rs 3 p.
(b) Tony puts q marbles on the table. He has 8 q marbles in his box.
(c) Our class has n students. The school has 20 n students.
(d) Jaggu is z years old. His uncle is 4 z 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.

ASSIGNMENT QUESTIONS
CLASS VI: CHAPTER – 11
ALGEBRA

Give an expression for each

1. The perimeter of an equilateral triangle, if side of the triangle is m.
2. Area of the rectangle with length k units and breadth n units.
3. Omar helps his mother 1 hour more than his sister does.
4. Two consecutive odd integers.
5. Two consecutive even integers.
6. Multiple of 5.
7. Anagha, Sushant and Faizal are climbing the steps to a hill top. Anagha is at the step p. Sushant is 10 steps ahead and Faizal is 6 steps behind Anagha. Where are Sushant and Faizal? The total number of steps to the hill top is 3 steps less than 8 times what Anagha has reached. Express the total number of steps using p.
8. Raju's age (in years) is 2 more than 5 times her daughter's age.
9. 13 subtracted from thrice of a number.
10. One more than twice the number.
11. 20^0C less than the present temperature.
12. The successor of an integer.
13. The denominator of a fraction is 1 more than its numerator.
14. The height of Mount Everest is 20 times the height of Empire State building.
15. If a note book costs Rs p and a pencil costs Rs 3, then the total cost (in Rs) of two note books and one pencil.
16. z is multiplied by –3 and the result is subtracted from 13.
17. p is divided by 11 and the result is added to 10.
18. x times of 3 is added to the smallest natural number.
19. 6 times q is subtracted from the smallest two digit number.
20. Write two equations for which 2 is the solution.
21. Write an equation for which 0 is a solution.
22. Write an equation whose solution is not a whole number.
23. one-half of the sum of number x and y.
24. 2 less than the quotient of x by y.
25. 4 times x taken away from one-third of y.
26. quotient of x by 3 is multiplied by y.

Convert the expressions into statements in ordinary language.

27. Cost of a pencil is Rs x. A pen costs Rs $6x$.

28. Manisha is z years old. Her uncle is $5z$ years old and her aunt is $(5z - 4)$ years old.

29. A pencil costs Rs p and a pen costs Rs $5p$.

30. Leela contributed Rs y towards the Prime Minister's Relief Fund. Leela is now left with Rs $(y + 10000)$.

31. Kartik is n years old. His father is $7n$ years old.

32. The maximum temperature on a day in Delhi was poC. The minimum temperature was $(p - 10)^0$C.

33. John planted t plants last year. His friend Jay planted $2t + 10$ plants that year.

34. Sharad used to take p cups tea a day. After having some health problem, he takes $p - 5$ cups of tea a day.

35. The number of students dropping out of school last year was m. Number of students dropping out of school this year is $m - 30$.

36. Price of petrol was Rs p per litre last month. Price of petrol now is Rs $(p - 5)$ per litre.

37. Khader's monthly salary was Rs P in the year 2005. His salary in 2006 was Rs (P + 1000).

38. The number of girls enrolled in a school last year was g. The number of girls enrolled this year in the school is $3g - 10$.

39. Translate each of the following statements into an equation, using x as the variable:

(a) 13 subtracted from twice a number gives 3.

(b) One fifth of a number is 5 less than that number.

(c) Two-third of number is 12.

(d) 9 added to twice a number gives 13.

(e) 1 subtracted from one-third of a number gives 1.

40. Translate each of the following statements into an equation:

(a) The perimeter (p) of an equilateral triangle is three times of its side (a).

(b) The diameter (d) of a circle is twice its radius (r).

(c) The selling price (s) of an item is equal to the sum of the cost price (c) of an item and the profit (p) earned.

(d) Amount (a) is equal to the sum of principal (p) and interest (i).

41. A class with p students has planned a picnic. Rs 50 per student is collected, out of which Rs 1800 is paid in advance for transport. How much money is left with them to spend on other items?

42. In a village, there are 8 water tanks to collect rain water. On a particular day, x litres of rain water is collected per tank. If 100 litres of water was already there in one of the tanks, what is the total amount of water in the tanks on that day?

43. What is the area of a square whose side is m cm?

44. Perimeter of a triangle is found by using the formula $P = a + b + c$, where a, b and c are the sides of the triangle. Write the rule that is expressed by this formula in words.

45. Perimeter of a rectangle is found by using the formula $P = 2 (l + w)$, where l and w are respectively the length and breadth of the rectangle. Write the rule that is expressed by this formula in words.

46. On my last birthday, I weighed 40kg. If I put on m kg of weight after a year, what is my present weight?

47. Length and breadth of a bulletin board are r cm and t cm, respectively.

(i) What will be the length (in cm) of the aluminium strip required to frame the board, if 10cm extra strip is required to fix it properly.

(ii) If x nails are used to repair one board, how many nails will be required to repair 15 such boards?

(iii) If 500sqcm extra cloth per board is required to cover the edges, what will be the total area of the cloth required to cover 8 such boards?

(iv) What will be the expenditure for making 23 boards, if the carpenter charges Rs x per board.

48. Sunita is half the age of her mother Geeta. Find their ages

(i) after 4 years?

(ii) before 3 years?

49. Manoj spends Rs. x daily and saves Rs. y per week. What is his income after 2 weeks?

50. One pencil costs Rs. 4 and one pen cots Rs. 10. What is the cost of x pencils and y fountain pens?

51. Ajay spends Rs. x per week and saves Rs. y daily. What is his income after 3 weeks?

52. Deepa scores 90 marks in Mathematics and x marks in Science. What is her total score in Science and Mathematics?

53. The score of Abhay in Maths is 25 more than the two third of his score in science. If he scored x marks in Science, find his score in Mathematics.

54. The score of Manoj in Maths is 15 less than the one-third of his score in science. If he scored x marks in Science, find his score in Mathematics.

55. Rakesh covers x centimeters in one step. How many centimeteres does he covers in 10 steps?

56. Think of a number. Multiply it by 6. Add 5 to the result. Subtract y from this result. What is the result?

57. Rakesh spends Rs. x per week and saves Rs. y daily. What is his income after 4 weeks?

58. One pencil costs Rs. 2 and one fountain pen cots Rs. 15. What is the cost of x pencils and y fountain pens?

59. Rohit scores 80 marks in Maths and x marks in English. What is his total score in the two subjects?

60. The number of rooms on the ground floor of a building is 15 less than the twice of the number of rooms on first floor. If the first floor has x rooms, how many rooms does the ground floor has?