

Important Questions for CBSE Class 6 Maths Chapter 11 – Algebra

Ch-11 Algebra

1. 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?

1. $10 + r$

2. $10r$

3. $10 - r$

4. r

2. Which of the following is expression with one variable?

1. $x + y + z$

2. $y + 1$

3. 1

4. $x + y - 5$

3. 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?

1. $12b$

2. $3b - 4$

3. None of these

4. $3b + 4$

4. The _____ of the variable in an equation which satisfies the equation is called a solution to the equation.

1. value

2. factor

3. term

4. None of these

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

1. $4 - s$

2. $4 + s$

3. s

4. $4s$

6. Match the following:

Column A	Column B
(a) 3 times y added to 13	(p) $5y - 8$
(b) 8 subtracted from 5 times y	(q) $3x - 5$
(c) 5 reduced from 3 times x	(r) $2x + 5$
(d) 5 added to double of x	(s) $3y + 13$

7. Fill in the blanks:

1. The value of $2x - 12$ is zero, when $x =$ _____.

2. The product of 2 and x is being added to the product of 3 and y is expressed as _____.

3. The numerical coefficient of the terms $12xy^2$ and $212xy^2$ is _____.

4. The no. of terms in the expression $3x^2y - 4x^2y^2 + 12xy^2 - 5x^3x^2y - 4x^2y^2 + 12xy^2 - 5x$ is _____.

8. State whether the following statements are true or false:

1. The parts of an algebraic exponent which are connected by + or - sign are called its terms.

2. 5 times x subtracted from 8 times y is $5x - 8y$.

3. A number having fixed value is called variable.

4. The numerical coefficient of $-2x^2y$ is -2.

9. Write which letters give us the same rule as that given by L.

10. Rearrange the terms of the following expressions in ascending order of powers of x:

$5x^2, 2x, 4x^4, 3x^3, 7x^5$

11. Give expressions for the following

1. 7 added to
2. 7 subtracted from
3. p multiplied by
4. p divided by
5. 7 subtracted
6. $-p$ multiplied by
7. $-p$ divided by
8. p multiplied by -5 .

12. The teacher distributes 5 pencils per student. Can you tell how many pencils are needed, given the number of students ? (Use s for number of students.)

13. Form expressions using y , 2 and 7. Every expression must have y in it. use only two number operations. These should be different.

14. Find the value of the expression $2x - 3y + 4z$, if $x = 10$, $y = -12$ and $z = 11$.

15. Deepak's present age is one-third his mother's present age. If the mother's age was five times his age 6 years ago, what are their present ages?

Answer

1.

b. $10r$, Explanation: Let the total number of rows be ' r '.

As, No. Of dots in a row = 10.

So, the dots needed for 10 rows = $r \times 10 = 10r$.

2.

b. $y + 1$, Explanation: The equation has one variable as " y " whose value is not known. therefore, the equation is in one variable.

3.

b. $3b - 4$, Explanation: breadth of a rectangular hall = b meters

let length of a rectangular hall be ' l ' meter

according to the question, $l = 3$ times the breadth $- 4 = 3b - 4$

4.

a. value, Explanation: It is correct because the value of the variable must satisfy the equation.

5.

d. (d) $4s$, Explanation: Let the number of pencils be ' s '.

As, the number of pencils distributed to each student = 4

Thus, No. of pencils for ' s ' students = $4 \times s = 4s$.

6.

1. $\rightarrow \rightarrow (s)$

2. $\rightarrow \rightarrow (p)$

3. $\rightarrow \rightarrow (q)$

4. $\rightarrow \rightarrow (r)$

7.

1. 6;
2. $2x + 3y$;
3. 1212;
4. 4

8.

1. True
2. False
3. False
4. True

9. The other letters which give us the same rule as L are T, V and X because the number of matchsticks required to make each of them is 2.

10. If the given terms are arranged in the ascending order of powers of x, we get, $2x$, $5x^2$, $3x^3$, $4x^4$, $7x^5$.

11.

1. $p + 7$
2. $p - 7$
3. $7p$
4. $p7p7$
5. $-m - 7$
6. $-5p$
7. $-p5-p5$
8. $-5p$.

12. Number of pencils to be distributed to each student = 5. And, let the number of students in class be 's'.

As per the logic, Number of pencils needed = (Number of students in the class) x (Number of pencils to be distributed to one student)

So, Number of pencils needed = $5 \times s = 5s$.

13. The different expressions that can be formed are: $2y + 7$, $2y - 7$, $7y + 2$, $7y - 2$, $(y/2) - 7$, $(y/7) - 2$, $y - (7/2)$, $y + (7/2)$

14. Given expression = $2x - 3y + 4z$

If $x = 10$, $y = -12$ and $z = 11$,

The expression becomes, $(2 \times 10) - (3 \times -12) + (4 \times 11)$

$$= 20 - (-36) + 44$$

$$= 20 + 36 + 44$$

$$= 100.$$

15. Let present age of mother = x years

Deepak's present age = $x/3$ years = $x/3$ years

6 years ago, mother's age = $(x - 6)$ years

Deepak's age = $(x/3 - 6)$ = $(x/3 - 6)$ years

According to the problem, 6 years ago, mother's age is 5 times Deepak age.

i.e., $(x - 6) = 5 \times (x/3 - 6) = 5 \times (x/3 - 6)$

$x - 5 \times x/3 = -30 + 6 \times 5$ $x - 5x/3 = -30 + 30$

$3x - 5x/3 = -24$ $3x - 5x/3 = -24$

$-2x/3 = -24$ $-2x/3 = -24$

$2x = 24 \times 3$ $2x = 24 \times 3$

$x = 72/2 = 36$ $x = 72/2 = 36$

Therefore, present age of mother = 36 years and

Present age of Deepak = $x/3 = 36/3 = 12$ = $x/3 = 36/3 = 12$ years.