

Grade 7 Algebraic Expressions Worksheets

Grade 7 Maths Algebraic Expressions Multiple Choice Questions (MCQs)

1. Write the expression for the statement: the sum of three times x and 11?

- (a) $x + 3 + 11$
- (b) $3x + 11$
- (c) $3 + 11x$
- (d) $3x - 11$

2. Identify the coefficient of x in expression $8 - x + y$

- (a) 0
- (b) 8
- (c) -1
- (d) 1

3. The number of terms in $4p^2q - 3pq^2 + 5$ is:

- (a) 7
- (b) 3
- (c) 1
- (d) 4

4. The expression for sum of numbers a and b subtracted from their product is:

- (a) $a + b - ab$
- (b) $ab - a + b$
- (c) $ab - (a + b)$
- (d) $ab + a - b$

5. The constant term in the expression $1 + x^2 + x$ is:

- (a) 1
- (b) 2
- (c) x
- (d) x^2

6. What is the numerical coefficient of y^2 in the expression $2x^2y - 15xy^2 + 7y$?

- (a) $-15x$
- (b) -15
- (c) 2
- (d) 7

7. The expression $x + y - xy$ is:

- (a) Monomial
- (b) Binomial
- (c) Trinomial
- (d) Quadrinomial

8. The expression xyz is:

- (a) Monomial
- (b) Binomial
- (c) Trinomial
- (d) Zero polynomial

9. From the following expressions $10pq$, $7p$, $8q$, $-p^2q^2$, $-7pq$, -23 , ab , $3a$, b .

The like terms are:

- (a) 3 , $7p$
- (b) $10pq$, $-7pq$
- (c) ab , $3a$, b
- (d) $10pq$, $7p$, $8q$

10. From the following expressions $3ab$, a^2 , b^2 , a , $5ab$, $-2ab$, $2a^2$ the three like terms are:

- (a) $3ab$, $5ab$, $-2ab$
- (b) a^2 , a , $2a^2$
- (c) $3ab$, a^2 , b^2
- (d) $2a^2$, a^2 , a

11. The value of $21b - 32 + 7b - 20b$ is:

- (a) $48b - 32$
- (b) $-8b - 32$
- (c) $8b - 32$
- (d) $28b - 52$

12. The value of expression $7a - 4b$ for $a = 3$, $b = 2$ is:

- (a) 13
- (b) $7a - 6b$
- (c) $21a - 8b$
- (d) 29

13. Factors of the term $15x^2$ in the expression $15x^2 - 13x$ are:

- (a) 15 , x , x
- (b) 15 , -13
- (c) $15x^2$, $-13x$
- (d) 15

14. Factors of the terms $-4pq^2$ in the expression $9p^2q^2 - 4pq^2$ are:

- (a) $9p^2q^2$, $-4pq^2$
- (b) 9 , -4
- (c) -4 , p , q , q
- (d) -4

15. The value of expression $5n^2 + 5n - 2$ for $n = -2$ is:

- (a) 13
- (b) 3
- (c) 8
- (d) 12

16. What must be subtracted from $2a + b$ to get $2a - b$?
- $2b$
 - $4a$
 - 0
 - $4a + 4b$
17. On simplifying $(a + b - 3) - (b - a + 3) + (a - b + 3)$ the result is:
- $a - b + 3$
 - $a - b - 3$
 - $3a - b - 3$
 - $3a + b + 3$
18. What should be value of 'a' if $y^2 + y - a$ equals to 3 for $y = 1$
- 1
 - 5
 - 5
 - 0
19. What is the statement for the expression $2y - 9$?
- $2y$ subtracted from 9
 - 9 subtracted from y and multiplied by 2
 - 9 subtracted from 9
 - twice of y minus 9
20. The equation for the statement: one fourth of a number minus 4 gives 4.
- $4x - 4 = 4$
 - $\frac{4}{x} - 4 = 4$
 - $\frac{1}{4}x - 4 = 4$
 - $x - 4 = \frac{1}{4}$

Grade 7 Maths Algebraic Expressions Fill In The Blanks

- The numerical coefficient of a in $-3ab^2$ is
- Number of terms in the expression $3x^2y - 2y^2z - z^2x + 5$ is
- Algebraic expression for 5 subtracted from the product of $2x$ and $3y$ is
- The like terms in a^2b , $-5ab$, $5ba^2$ is
- Product of $5m^2n$ and $-3m^3n^2$ is
- The product of $x(x^2y - xy^2)$ is
- Sum of $2a^2 - 3ab + 5b^2$, $-3a^2 + 4ab + 3b^2$ is
- The value of the $2a^3 + 3a^2 + 2a - 7$ when $a = -2$ is
- Number of diagonals we can draw from one vertex of a quadrilateral is
- Number of diagonals we can draw from one vertex of a pentagon is

Grade 7 Maths Algebraic Expressions Very Short Answer Type Questions

1. Pallavi spends ₹ x daily and saves ₹ y per day. What is her income after 3 weeks?
2. If $P = -10$, find the value of $P^2 - 2P - 100$.
3. If $a + b = 6$, then find the value of $\frac{1}{2}a + \frac{1}{2}b$.
4. Add $4x^2y$, $8x^2y$ and $-2x^2y$.
5. How many diagonals we can draw from one vertex of a polygon of 'n' sides?
6. How many diagonals we can draw from one vertex of a heptagon?

Grade 7 Maths Algebraic Expressions Short Answer Type Questions

1. What should be added to $a^2 + ab + b^2$ to obtain $4ab + b^2$?
2. The length of a rectangular field is 6m less than three times its breadth. Find the dimensions of the rectangle if its perimeter is 148 m.
3. Collect like terms and simplify the expression:
 $12m^2 - 9m + 5m - 4m^2 - 7m + 10$
4. What should be subtracted from $a^3 - 4a^2 + 5a$ to obtain $a^2 - 2a + 1$?

Grade 7 Maths Algebraic Expressions Long Answer Type Questions

1. From the sum of $5y^2 + 7yz$, $-5y^2 - yz - z^2$ and $4yz + 3z^2$, subtract the sum of $5y^2 - 3z^2$ and $8y^2 + yz - 6z^2$.
2. In an isosceles triangle, the base angles are equal, the vertex angle is twice either the base angle. What are the degree measures of the angles of triangle?
3. A bag contains 25 paise and 50 paise coins whose total values is ₹ 30. If the total number of 25 paise coins is four times that of 50 paise coins, find the number of each type of coins.