Grade 8 Algebraic Expressions and Identities Worksheets

Grade 8 Maths Algebraic Expressions and Identities Multiple Choice Questions (MCQs)

1. What are the co-efficients of y in the expression yz ² + 5?
(a) 5
(b) z
(c) Z ²
(d) None of these
2. The constant term in the expression $1 + x^2 + x$ is
(a) 1
(b) 2
(c) x
(d) x^2
3. The expression x + y - xy is:
(a) Monomial
(b) Binomial
(c) Trinomial
(d) Quadrinomial
4. From the following expressions 3ab, a², b², a, 5ab, -2ab, 2a² the three like
terms are:
(a) 3ab, 5ab, -2ab
(b) a², a, 2a² (c) 3ab, a², b²
(d) 2a², a², a
5. The value of expression 5n – 2, when n = -2 is:
(a) -12
(b) 8
(c) 1
(d) -8
6. If the length of each side of the equilateral triangle is I, then the perimeter
of the equilateral triangle is:
(a) 3l
(b) 3 + 1
(c) 3 – I
(d) $\frac{l}{3}$
7. Which of the following is trinomial:
(a) 2a + 6b – 1
(b) 1

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(c) 5a - 7
(d) a + b + c - 3
8. The value of expression 5n^2 + 5n - 2 for n = -2 is
(a) 13
(b) 3
(c) 8
(d) 12
9. The expression for the statement: "y multiplied by 10 and then 7 added
to product".
(a) 10 + y + 7
(b) 7y + 10
(c) 10y + 7
(d) 10y
10. The numerical co-efficient of y in the expression 2x + 3y + 7z is:
(a) 2
(b) 3
(c) 7
(d) 3y
11. '2' is common factor of the expressions:
(a) 12a<sup>2</sup> b, 15ab<sup>2</sup>
(b) 5xy, 10x
(c) 10x^2, -18x^3, 14x^4
(d) 33y, -22z
12. The area of a rectangle is 'xy' where V is length and ly' is breadth. If the
length of rectangle is increased by 5 units and breadth is decreased by 3
units, the new area of rectangle will be:
(a) (x - y)(x + 3)
(b) xy + 15
(c) (x + 5)(y - 3)
(d) xy + 5 - 3
13. The product of a<sup>2</sup>, 2a<sup>2</sup>, 5a<sup>10</sup> is
(a) 10 a<sup>14</sup>
(b) 7 a<sup>14</sup>
(c) 10 a<sup>22</sup>
(d) 10 a<sup>40</sup>
14. Which of the following expression is trinomial:
(a) xyz
(b) xy + z
(c) x + y + z
(d) x + yz
15. Value of expression a(a^2 + a + 1) + 5 for 'a' = 0 is:
(a) a + 5
(b) 1
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(c) 6
(d) 5
16. Evalute (4x + y)^2 by suitable identity:
(a) 4x^2 + y^2 + 8x
(b) 4x + y + 8xy
(c) 16x^2 + y^2 + 8xy
(d) 16x^2 + y^2 + 8
17. (a - b)^2 is equal to:
(a) a^2 + b^2 - 2ab
(b) a^2 - b^2 + 2ab
(c) a^2 - b^2
(d) (a - b)(a + b)
18. If ab = 6 and a + b = 5 then the value of (a^2 + b^2) is:
(a) 11
(b) 12
(c) 13
(d) 16
19. If x - y = 7 and xy = 9, then the value of (x^2 + y^2) is:
(a) 64
(b) 67
(c) 63
(d) None of these
20. If (x+\frac{1}{x}) = 4, then the value of (x^2+\frac{1}{x^2}) is:
(a) 14
(b) 12
(c) 16
(d) None of these
Class 8 Maths Algebraic Expressions and Identities Fill In The Blanks
1. The number of terms in the product of (3x^2 + 6xy + 5y^2) and (3x + 4y - 13) is
2. In the product of (4a^3 + 5a^2 - 11a) and (-15 + 3a - 7a^2), the co-efficient of a^4 is
3. The value of (3a - 4b + 2) \times (5a + 6) for a = 1 and b = -2 is ......
                (67.542)^2 - (32.458)^2
                    75.458 - 40.374
4. The value of
                                              is .....
5. Find the product: (A + B).(A - B).(A^2 + B^2).(A^4 + B^4) = \dots
Class 8 Maths Algebraic Expressions and Identities True(T) Or False(F)
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- 1. If, $a + \frac{1}{a} = 7$, then $a^2 + \frac{1}{a^2} = 49$
- 2. The product of a binomial and a trinomial will always have 5 terms.
- 3. $(3x^2 + 5y^2) \times (5x^5 + 8y^3) = 15x^7 + 24x^2y^3 + 25x^5y^2 + 40y^5$

Class 8 Maths Algebraic Expressions and Identities Very Short Answer Type Questions

- 1. What are the co-efficients of y in the expression 4x 3y?
- 2. What is the statement for the expression 3mn + 5
- 3. What is the numerical co-efficient of y^2 in the expression $2x^2y 15xy^2 + 7y$
- 4. What must be subtracted from 2a + b to get 2a b.
- 5. What must be added to 3x + y to get 2x + 3y?
- 6. What should be value of 'a' if $y^2 + y a$ equals to 3 for y = 1?

Class 8 Maths Algebraic Expressions and Identities Short Answer Type Questions

- 1. What must be added to $7z^3 11z^2 129$ to get $5z^2 + 7z 92$?
- 2. If (3x 5y) = 10 and xy=5, then find the value of $9x^2 + 25y^2$.
- 3. If x + y = 9 and xy = 14, find $x^2 y^2$.
- 4. If 3x + 2y = 12 and xy = 6, find the value of $9x^2 + 4y^2$.

Class 8 Maths Algebraic Expressions and Identities Long Answer Type Questions

- 1. Given $(x^2 + y^2) = 74$ and xy = 35, find the value of x + y and x y.
- 2. If $x + \frac{1}{x} = 4$, find the value of $\left(x^2 + \frac{1}{x^2}\right)$ and $\left(x^4 + \frac{1}{x^4}\right)$.
- 3. Using suitable identities evaluate the following:
- $(i) (93)^2$
- (ii) $(12.5)^2 (7.5)^2$
- (iii) 93 × 109