STANDARD 7TH: CHAPTER 8

Algebraic expression and operations on them

Q.1. Choose the following alternatives
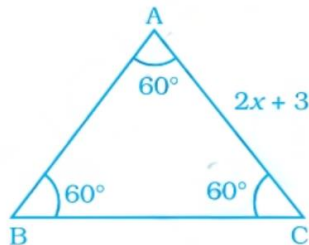
1. If $(x - 2)(x + 5) = 0$, then what are the possible values of x?
   a. $x = 2$
   b. $x = -5$
   c. $x = 2 \; or \; x = -5$
   d. $x = 7$

2. Subtract the sum of $- 3x^3y^2 + 2x^2y^3$ and $- 3x^2y^3 - 5y^4$ from $x^4 + x^3 y^2 + x^2y^3 + y^4$.
   a. $x^4 + 4x^3y^2 + 2x^2y^3 + 6y^4$
   b. $x^4 + 4x^3y^2 - 2x^2y^3 + 6y^4$
   c. $x^4 + 4x^3y^2 + 4x^2y^3 + 6y^4$
   d. $x^4 - 2x^3y^2 + 2x^2y^3 + 6y^4$

3. Find x, if the perimeter of equilateral given below is 240 cm. and each side is 2x+3

   a. 24.5
   b. 38.5
   c. 35.5
   d. 17.5

4. An algebraic expression containing three terms is called a
   a. monomial
   b. binomial
   c. trinomial
   d. All of these

5. Which of the following is a pair of like terms?
   a. $-7xy^2z, -7x^2yz$
   b. $-10xyz^2, 3xyz^2$
   c. $3xyz, 3x^2y^2z^2$
   d. $4xyz^2, 4x^2yz$

6. State true or false
   If we add a monomial and binomial, then answer can never be a monomial.
   a. True
   b. False

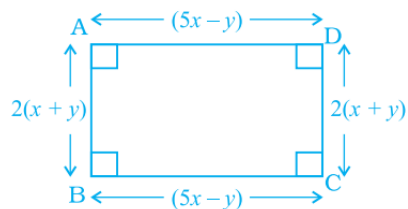7. Add: $a^2 + 3ab - bc, b^2 + 3bc - ca$ and $c^2 + 3ca - ab$
   a. $a^2 + b^2 + c^2 - 2ab + 2bc + 2ca$
   b. $a^2 + b^2 + c^2 + 2ab - 2bc + 2ca$
   c. $a^2 + b^2 + c^2 - (2ab + 2bc + 2ca)$
   d. $a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$

8. Arjun bought a rectangular plot with length x and breadth y and then sold a triangular part of it whose base is y and height is z. Find the area of the remaining part of the plot.

9.
   a. $xy - \frac{1}{2}yz$
   b. $xz - \frac{1}{2}yz$
   c. $xy + \frac{1}{2}xz$
   d. $yz + \frac{1}{2}xz$

10. Find the perimeter of the figure given below:

   a. $14x - 4y$
   b. $14x + 2y$
   c. $-10x + 2y$
   d. $14x - 2y$

11. Find following product: $5a^2b^2 \times (3a^2 - 4ab + 6b^2)$
   a. $15a^4b^2 + 20a^3b^3 + 30a^2b^4$
   b. $15a^4b^2 - 20a^3b^3 + 30a^2b^4$
   c. $15a^4b^2 - 20a^3b^3 - 30a^2b^4$
   d. $15a^4b^2 - 20a^3b^2 + 30a^2b^4$

Q.2. Solve

1. Divide $x^3 - 2x - 21$ by $x - 3$.

2. Multiply $2x^2 - 5x + 4$ and $x^2 + 7x - 8$

3. Evaluate the $(102)^2$ using algebraic expressions.

4. One factor of $12 - 14a^2 - 13a$ is $3 + 2a$ what is another factor

5. Find quotient if $5x^3 - 4x^2 + 3x + 18$ is divided by $3 - 2x + x^2$

6. Find: $(3a - 7b)^2$

7. Three angles of triangle are $(x + 20)^0, (3x - 20)^0$ and $(2x + 36)^0$

8. What should be added to $x^4 - x^2 + x + 2$ to get $x^2 + x + 4$?

9. If the volume of a room is $x^3 + 9x^2 + 14x$ and the length of the room is greatest in dimension, then find the length of room?

10. Simplify: $\dfrac{1 + \frac{1}{x+y}}{1 - \frac{1}{x+y}}$