STANDARD 8TH: CHAPTER 5

Expansion Formulae

Q1. Select all correct options

1. Find the correct expansion of 97^2.

   a) $95^2 + 2.97.2 + 2^2$

   b) $100^2 - 591$

   c) $100^2 + 2.100.3 + 3^2$

   d) $95^2 - 2.95.2 + 2^2$

2. Find the correct expansion of 103^2.

   a) $105^2 - 416$

   b) $100^2 + 609$

   c) $100^2 + 2.100.3 - 3^2$

   d) $105^2 + 2.105.2 +$

3. The value of $81^2 - 19^2$ is _____.

4. The value of $82^2 - 18^2$ is _____.

5. The value of $83^2 - 17^2$ is _____.

6. The expansion of the expression $(2x+3)(4x+5)$ is _____.

7. The expansion of the expression $(3x - \sqrt{7})(3x + \sqrt{7})$ is _____.

8. The expansion of the expression $(3x - \sqrt{7})(\sqrt{7}x + 3)$ is _____.

9. For $x + \frac{1}{x} = 5,$ the value of $x^3 + \frac{1}{x^3}$ is _____.

10. For $x - \frac{1}{x} = 5,$ the value of $x^3 - \frac{1}{x^3}$ is _____.

Q2. Solve the followings:

1. Expand the expression $(ax + b)(cx + d)$.

2. Expand the expression $(7x^2 - 3)(x^2 + 2)$.

3. Find the cube of 9 using the expansion formula.

4. Expand the expression $\left(2x - \frac{7}{3}\right)\left(5x - \frac{11}{9}\right)$

5. Expand the expression $(x + 1)(x + 2)(x + 3)$

6. Expand the expression $(x - 1)(x + 2)(x - 3)$

7. Expand the expression $\left(x + \frac{1}{x}\right)^3$

8. Expand the expression $\left(m - \frac{1}{m}\right)^3$

9. Expand the expression $\left(a + \frac{1}{a}\right)^3 + \left(a - \frac{1}{a}\right)^3$

10. Expand the expression $(x^2 - 7)(x^2 + 2)$