

Class VIII (Maths Assignment)

CH-9 Algebraic Expressions And Identities

Q1. Add: $\frac{7}{2}x^3 - \frac{1}{2}x^2 + \frac{5}{3}$, $\frac{3}{2}x^3 + \frac{7}{4}x^2 - x + \frac{1}{3}$, $\frac{3}{2}x^2 - 5x - 2$ (Ans) $\Rightarrow 5x^3 + \frac{11}{4}x^2 - 7x - \frac{2}{3}$

Q2. Subtract the sum of $3l - 4m - 7n^2$ and $2l + 3m - 4n^2$ from the sum of $9l + 2m - 3n^2$ and $-3l + m + 4n^2$ (Ans) $\Rightarrow l + 4m + 12n^2$

Q3. Evaluate $(2.3a^5 b^2) \times (1.2 a^2 b^2)$ when $a=1$, $b=0.5$ (Ans) $\Rightarrow 69$

Q4. Simplify

$\frac{3}{2}x^2(x^2 - 1) + \frac{1}{4}x^2(x^2 + x) - \frac{3}{4}x(x^3 - 1)$ (Ans) $\Rightarrow x^4 + \frac{1}{4}x^3 - 3x^2 + \frac{3}{4}x$

Q5. If $x + \frac{1}{x} = 20$, find the value of $x^2 + \frac{1}{x^2}$ (Ans) $\Rightarrow 398$

Q6. If $x - y = 7$ and $xy = 9$. Find the value of $x^2 + y^2$ (Ans) $\Rightarrow 67$

Q7. If $a + b = 7$ and $ab = 10$, find the value of $a^2 + b^2$ (Ans) $\Rightarrow 29$

Q8. If $x^2 + y^2 = 29$ and $xy = 2$, find the value of
 (a) $x + y$ (b) $x - y$ (c) $x^4 + y^4$ (Ans) \Rightarrow (a) $\sqrt{33}$ (b) 5 (c) 833

Q9. Show that

$\Rightarrow (4x + 7y)^2 - (4x - 7y)^2 = 112xy$

Q10. Solve using suitable identities:

(a) $128^2 - 77^2$ (Ans) \Rightarrow (A) 10465

(b) $\frac{58^2 - 42^2}{16}$ (B) 100

(c) $\frac{8.63 \times 8.63 - 1.37 \times 1.37}{0.726}$ (C) 100

Q11. If $3x + 5y = 11$ and $xy = 2$
 Then find the value of $9x^2 + 25y^2$ (Ans) $\Rightarrow 61$

Answers

1) $5x^3 + \frac{11}{4}x^2 - 7x$

2) $l + 4m + 12n^2$

3) $\frac{69}{400}$

4) $x^4 + \frac{1}{4}x^3 - \frac{3}{9}x^2 + \frac{3}{4}x$

5) 398

6) 67

7) 29

8) (a) $\sqrt{33}$ (b) 5 (c) 833

10) (a) 10465

11) 61

(b) 100

(c) 100