RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3: RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3 are designed to help students grasp and master the concepts of operations on algebraic expressions. This exercise focuses on performing various mathematical operations, such as addition, subtraction, multiplication, and division, on algebraic expressions. It includes a variety of problems that require students to apply these operations in different contexts.

By working through the solutions provided, students can gain a clearer understanding of how to handle algebraic expressions with multiple terms and variables. The step-by-step explanations and methods offered in this resource help in reinforcing their knowledge and improving their problem-solving skills.

RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3 Overview

RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3 prepared by subject experts of Physics Wallah provide a detailed overview of operations on algebraic expressions. This exercise covers a range of problems related to the addition, subtraction, multiplication, and division of algebraic expressions.

The solutions provided are detailed and systematically approach each problem, helping students understand the underlying concepts more effectively. By following these expert-prepared solutions, students can enhance their ability to manipulate and solve complex algebraic expressions, thereby building a strong foundation for more advanced mathematical topics.

RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3 PDF

The PDF for RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3 is available below. This resource contains detailed solutions and step-by-step explanations for problems involving operations on algebraic expressions.

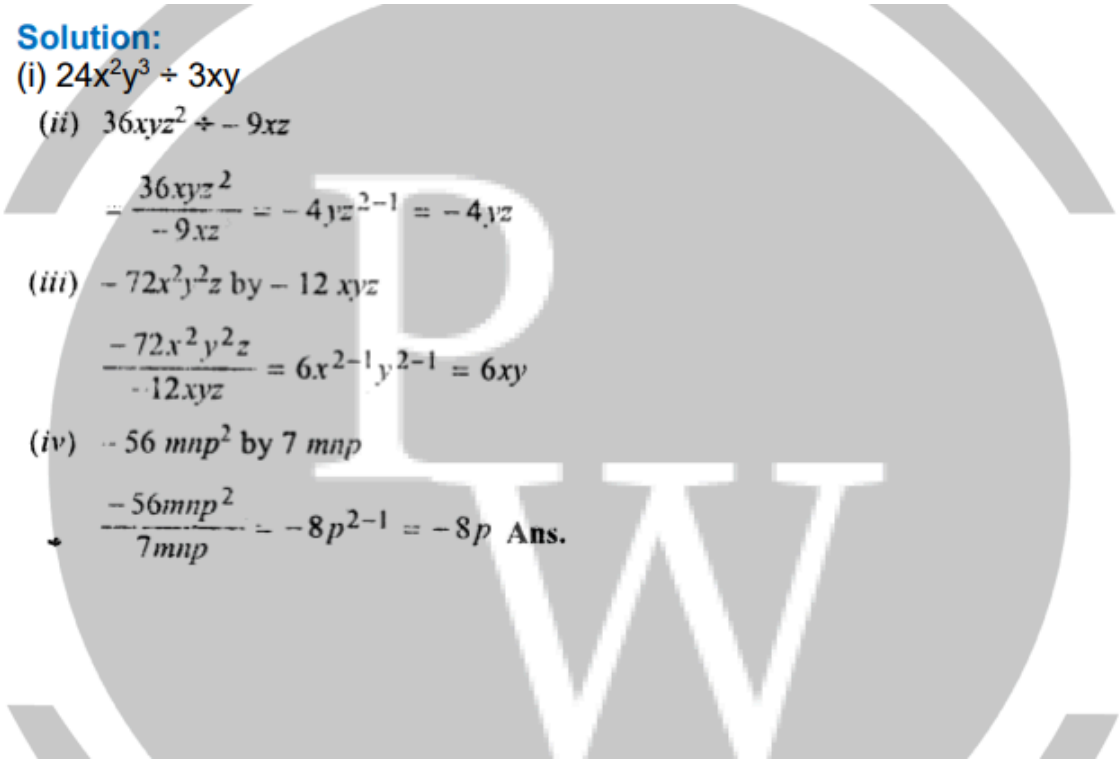
By using this PDF students can access clear methodologies and approaches to solve various exercises effectively which will help in reinforcing their understanding and improving their problem-solving skills.

RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3 PDF

RS Aggarwal Solutions for Class 8 Maths Chapter 6 Operations on Algebraic Expressions (Exercise 6C) Exercise 6.3

The RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3 are available below. This resource provide detailed solutions and explanations for problems related to operations on algebraic expressions.

Question 1 Simplify the following expression: 24x2y3÷3xy



Solution:

(i) $24x^2y^3 \div 3xy$

(ii) $36xyz^2 \div -9xz$

$$= \frac{36xyz^2}{-9xz} = -4yz^{2-1} = -4yz$$

(iii) $-72x^2y^2z$ by $-12xyz$

$$\frac{-72x^2y^2z}{-12xyz} = 6x^{2-1}y^{2-1} = 6xy$$

(iv) $-56\ mnp^2$ by $7\ mnp$

$$\frac{-56mnp^2}{7mnp} = -8p^{2-1} = -8p$$ **Ans.**

Question 2 Simplify the following expression: 5m5m3−30m2+45m

Solution:

(i)$(5m^3 - 30m^2 + 45m) \div 5m$

$$= \frac{5m^3}{5m} - \frac{30m^2}{5m} + \frac{45m}{5m}$$

$= m^2 - 6m + 9$ **Ans.**

(ii) $(8x^2y^2 - 6xy^2 + 10x^2y^3) \div 2xy$

$$= \frac{8x^2y^2}{2xy} - \frac{6xy^2}{2xy} + \frac{10x^2y^3}{2xy}$$

$= 4xy - 3y + 5xy^2$ **Ans.**

(iii) $9x^2y - 6xy + 12xy^2 \div -3xy$

$$= \frac{9x^2y}{-3xy} - \frac{6xy}{-3xy} + \frac{12xy^2}{-3xy}$$

$= -3x + 2 - 4y$ Ans.

(iv) $12x^4 + 8x^3 - 6x^2 \div -2x^2$

$$12x^4 + 8x^3 - 6x^2$$

$$= \frac{12x^4}{-2x^2} + \frac{8x^3}{-2x^2} - \frac{6x^2}{-2x^2}$$

$= -6x^2 - 4x + 3$ Ans.

Question 3 Divide the polynomial x2−4x+4 by x−2 and find the quotient and the remainder.

Solution:

$x - 2)\overline{x^2 - 4x + 4}(x - 2$

$x^2 - 2x$

$- \quad +$

$-2x + 4$

$-2x + 4$

$+ \quad -$

$\times$

Quotient $= x - 2$

Reminder $= 0$ Ans.

Question 4 ($x^2 - 4$) by (x + 2)

Solution:

$$= \frac{(x^2 - 2^2)}{(x+2)}$$

$$= \frac{(x+2)(x-2)}{(x+2)} = (x - 2)$$

Question 5 ($x^2 + 12x + 35$) by (x + 7)

Solution:

$$= \frac{x^2 + 12x + 35}{(x+7)}$$

$$= \frac{x^2 + 5x + 7x + 35}{(x+7)}$$

$$= \frac{x(x+5) + 7(x+5)}{(x+7)}$$

$$= \frac{(x+5)(x+7)}{(x+7)} = (x + 5)$$

Question 6 Divide the polynomial (15x^2 + x – 6) by (3x + 2).

Solution:

Solution:

$$
\begin{array}{l}
3x+2\,\overline{)\,15x^2+x-6\;\;(5x-3} \\
\quad 15x^2+10x \\
\quad - \quad - \\
\hline
\qquad -9x-6 \\
\qquad -9x-6 \\
\qquad + \quad + \\
\hline
\qquad\quad \times \\
\hline
\end{array}
$$

$\therefore$ Quotient $= 5x - 3$ **Ans.**

Question 7 Divide the polynomial (14x^2 – 53x + 45) by (7x – 9).

Solution:

1. Divide the first term of the numerator by the first term of the denominator: 14x^2 ÷ 7x = 2x
2. Multiply the entire denominator by this result: (7x - 9) * 2x = 14x^2 - 18x
3. Subtract this from the original numerator: (14x^2 - 53x + 45) - (14x^2 - 18x) = -53x + 18x + 45 = -35x + 45
4. Divide the first term of the new result by the first term of the denominator: -35x ÷ 7x = -5
5. Multiply the entire denominator by this result: (7x - 9) * -5 = -35x + 45
6. Subtract this from the new numerator: (-35x + 45) - (-35x + 45) = 0

Final Answer: Quotient = 2x - 5, Remainder = 0

Question 8 Divide the polynomial (6x^2 - 31x + 47) by (2x - 5).

Solution:

1. Divide the first term of the numerator by the first term of the denominator: 6x^2 ÷ 2x = 3x
2. Multiply the entire denominator by this result: (2x - 5) * 3x = 6x^2 - 15x
3. Subtract this from the original numerator: (6x^2 - 31x + 47) - (6x^2 - 15x) = -31x + 15x + 47 = -16x + 47
4. Divide the first term of the new result by the first term of the denominator: -16x ÷ 2x = -8
5. Multiply the entire denominator by this result: (2x - 5) * -8 = -16x + 40
6. Subtract this from the new numerator: (-16x + 47) - (-16x + 40) = 7

Final Answer: Quotient = 3x - 8, Remainder = 7

Question 9 Divide the polynomial (2x^3 + x^2 - 5x - 2) by (2x + 3).

Solution:

1. Divide the first term of the numerator by the first term of the denominator: 2x^3 ÷ 2x = x^2
2. Multiply the entire denominator by this result: (2x + 3) * x^2 = 2x^3 + 3x^2
3. Subtract this from the original numerator: (2x^3 + x^2 - 5x - 2) - (2x^3 + 3x^2) = x^2 - 3x^2 - 5x - 2 = -2x^2 - 5x - 2
4. Divide the first term of the new result by the first term of the denominator: -2x^2 ÷ 2x = -x
5. Multiply the entire denominator by this result: (2x + 3) * -x = -2x^2 - 3x
6. Subtract this from the new numerator: (-2x^2 - 5x - 2) - (-2x^2 - 3x) = -5x + 3x - 2 = -2x - 2
7. Divide the first term of the new result by the first term of the denominator: -2x ÷ 2x = -1
8. Multiply the entire denominator by this result: (2x + 3) * -1 = -2x - 3
9. Subtract this from the new numerator: (-2x - 2) - (-2x - 3) = -2 + 3 = 1

Final Answer: Quotient = x^2 - x - 1, Remainder = 1

Question 10 Divide the polynomial (x^3 + 1) by (x + 1).

Solution:

1. Divide the first term of the numerator by the first term of the denominator: x^3 ÷ x = x^2
2. Multiply the entire denominator by this result: (x + 1) * x^2 = x^3 + x^2
3. Subtract this from the original numerator: (x^3 + 1) - (x^3 + x^2) = 1 - x^2
4. Divide the first term of the new result by the first term of the denominator: -x^2 ÷ x = -x
5. Multiply the entire denominator by this result: (x + 1) * -x = -x^2 - x
6. Subtract this from the new numerator: (-x^2 + 1) - (-x^2 - x) = x + 1
7. Divide the first term of the new result by the first term of the denominator: x ÷ x = 1
8. Multiply the entire denominator by this result: (x + 1) * 1 = x + 1
9. Subtract this from the new numerator: (x + 1) - (x + 1) = 0

Final Answer: Quotient = x^2 - x + 1, Remainder = 0

Benefits of RS Aggarwal Solutions for Class 8 Maths Chapter 6 Exercise 6.3

- **Comprehensive Understanding**: These solutions provide a thorough breakdown of problems related to operations on algebraic expressions, helping students grasp complex concepts with ease.
- **Step-by-Step Guidance**: Each solution is explained in a step-by-step manner making it easier for students to follow and understand the process of solving algebraic expressions.

- **Practice and Reinforcement**: By working through these solutions, students can practice and reinforce their understanding of algebraic operations leading to improved accuracy and confidence in their math skills.
- **Clarification of Doubts**: The detailed explanations help clarify common doubts and misconceptions, ensuring that students build a solid foundation in algebra.
- **Enhanced Problem-Solving Skills**: The solutions encourage critical thinking and problem-solving skills which are important for tackling more advanced mathematical concepts.