

5.2 ALGEBRAIC EXPRESSIONS INVOLVING BASIC ARITHMETIC OPERATIONS

Part 1 : Algebraic Expressions Involving Addition And Subtraction

Simplify each of the following :

$$\begin{aligned} \text{(a) } 4x - 3y - x + 2y &= 4x - x - 3y + 2y \\ &= 3x - y \end{aligned}$$

$$\begin{aligned} \text{(b) } 8x - 5 - 3x + 8 &= 8x - 3x - 5 + 8 \\ &= 5x + 3 \end{aligned}$$

$$\begin{aligned} \text{(c) } 10 - 4m + 3 - m &= 10 + 3 - 4m - m \\ &= 13 - 5m \end{aligned}$$

$$\begin{aligned} \text{(d) } 8m - 9k + 7k - 5m &= 8m - 5m - 9k + 7k \\ &= 3m - 2k \end{aligned}$$

$$\begin{aligned} \text{(e) } p + 2p - 5 + 3p &= p + 2p + 3p - 5 \\ &= 6p - 5 \end{aligned}$$

$$\begin{aligned} \text{(f) } 7h - 5k - 3h + h &= 7h - 3h + h - 5k \\ &= 5h - 5k \end{aligned}$$

Part 2 : Algebraic Expressions Involving Multiplication

$$\begin{aligned} \text{(a)} \quad 4a \times 3a &= 4 \times a \times 3 \times a \\ &= 4 \times 3 \times \quad \times \\ &= \quad a^2 \end{aligned}$$

$$\begin{aligned} \text{(b)} \quad 8m \times 5 &= \quad \times m \times \\ &= 8 \times 5 \times \\ &= 40m \end{aligned}$$

$$\begin{aligned} \text{(c)} \quad pq \times 9 &= p \times \quad \times 9 \\ &= \end{aligned}$$

$$\text{(d)} \quad 9k \times k = 9k$$

$$\begin{aligned} \text{(e)} \quad 7h \times 5hk &= 7 \times 5 \times \quad \times \quad \times \\ &= \end{aligned}$$

$$\begin{aligned} \text{(f)} \quad n^2 \times 4n &= \quad \times \quad \times 4 \times \\ &= \quad 3 \end{aligned}$$

Part 3 : Algebraic Expressions Involving Division

$$(a) 7x \div x = \frac{7 \times}{\quad} = 7$$

$$(b) \frac{2n}{8} = \frac{n}{\quad}$$

$$(c) \frac{10c^2}{4c} = \frac{10 \times \quad \times}{4 \times c} = \frac{\quad}{2}$$

$$(d) k \div 3k^3 = \frac{k}{3 \times \quad \times \quad} = \frac{1}{2}$$

$$(e) 6u^3 \div 3u^2 = \underline{\hspace{2cm}} =$$