

**RD SHARMA**  
**Solutions**  
**Class 8 Maths**  
**Chapter 8**  
**Ex 8.6**

**Question 1:**  $x^2 - 5x + 6$  by  $(x - 3)$

**Soln:**

$$\frac{x^2 - 5x + 6}{x - 3}$$

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

$$= \frac{x(x-3) - 2(x-2)}{x-3}$$

$$= \frac{(x-3)(x-2)}{x-3} = x-2$$

**Question 2:**  $ax^2 - ay^2$  by  $(ax + ay)$

**Soln:**

$$\frac{ax^2 - ay^2}{ax + ay}$$

$$= \frac{a(x^2 - y^2)}{ax + ay}$$

$$= \frac{a(x+y)(x-y)}{a(x+y)} = x-y$$

**Question 3:**  $x^4 - y^4$  by  $x^2 - y^2$

**Soln:**

$$\frac{x^4 - y^4}{x^2 - y^2}$$

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

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

**Question 4:**  $acx^2 + (bc + ad)x + bd$  by  $(ax + b)$

**Soln:**

$$\frac{acx^2 + (bc + ad)x + bd}{ax + b}$$

$$= \frac{acx^2 + bcx + adx + bd}{ax + b}$$

$$= \frac{cx(ax + b) + d(ax + b)}{ax + b}$$

$$= \frac{(ax + b)(cx + d)}{ax + b} = cx + d$$

**Question 5:**  $(a^2+2ab+b^2)-(a^2+2ac+c^2)$  by  $(2a+b+c)$

**Soln:**

$$\frac{(a^2+2ab+b^2)-(a^2+2ac+c^2)}{2a+b+c}$$

$$= \frac{(a+b)^2-(a+c)^2}{2a+b+c}$$

$$= \frac{(a+b+a+c)(a+b-a-c)}{2a+b+c}$$

$$= \frac{(2a+b+c)(b-c)}{2a+b+c} = b-c$$

**Question 6:**  $(\frac{1}{4}x^2 - \frac{1}{2}x - 12)$  by  $(\frac{1}{2}x - 4)$

**Soln:**

$$\frac{\frac{1}{4}x^2 - \frac{1}{2}x - 12}{\frac{1}{2}x - 4}$$

$$= \frac{\frac{1}{2}x(\frac{1}{2}x-4)+3(0)}{\frac{1}{2}x-4}$$

$$= \frac{(\frac{1}{2}x+3)(\frac{1}{2}x-4)}{\frac{1}{2}x-4} = (\frac{1}{2}x + 3)$$