

# NCERT SOLUTIONS OF Factorization

## Exercise 4

---

**Question 1**

Find and correct the errors in the statement:  $4(x - 5) = 4x - 5$

**Answer**

$$\text{LHS} = 4(x-5) = 4x-20$$

$$\text{RHS} = (4x-5)$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$4(x-5) = 4x-20$$

**Question 2**

Find and correct the errors in the statement:  $x(3x + 2) = 3x^2 + 2$

**Answer :**

$$\text{LHS} = x(3x + 2) = 3x^2 + 2x$$

$$\text{RHS} = 3x^2 + 2$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$x(3x + 2) = 3x^2 + 2x$$

**Question 3 :**

Find and correct the errors in the statement:  $2x + 3y = 5xy$

**Answer :**

$$\text{LHS} = 2x + 3y$$

$$\text{RHS} = 5xy$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$2x + 3y = 2x + 3y$$

**Question 4**

Find and correct the errors in the statement:  $x + 2x + 3x = 5x$

**Answer :**

$$\text{LHS} = x + 2x + 3x = 6x$$

$$\text{RHS} = 5x$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$x + 2x + 3x = 6x$$

**Question 5**

Find and correct the errors in the statement:  $5y + 2y + y - 7y = 0$

**Answer**

$$\text{LHS} = 5y + 2y + y - 7y = y$$

$$\text{RHS} = 0$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$5y + 2y + y - 7y = y$$

**Question 6**

Find and correct the errors in the statement:  $3x + 2x = 5x^2$

**Answer**

$$\text{LHS} = 3x + 2x = 5x$$

$$\text{RHS} = 5x^2$$

LHS  $\neq$  RHS

Correct statement would be

$$3x + 2x = 5x$$

### Question 7

Find and correct the errors in the statement:  $(2x)^2 + 4(2x) + 7 = 2x^2 + 8x + 7$

**Answer :**

$$\text{LHS} = (2x)^2 + 4(2x) + 7 = 4x^2 + 8x + 7$$

$$\text{RHS} = 2x^2 + 8x + 7$$

LHS  $\neq$  RHS

Correct statement would be

$$(2x)^2 + 4(2x) + 7 = 4x^2 + 8x + 7$$

### Question 8

Find and correct the errors in the statement:  $(2x)^2 + 5x = 4x + 5x = 9x$

**Answer**

$$\text{LHS} = (2x)^2 + 5x = 4x^2 + 5x$$

$$\text{RHS} = 4x + 5x = 9x$$

$$\text{Third} = 9x$$

LHS  $\neq$  RHS = third part

Correct statement would be

$$(2x)^2 + 5x = 4x^2 + 5x$$

**Question 9**

Find and correct the errors in the statement:  $(3x + 2)^2 = 3x^2 + 6x + 4$

**Answer**

$$\text{LHS} = (3x + 2)^2 = 9x^2 + 12x + 4$$

$$\text{RHS} = 3x^2 + 6x + 4$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$(3x + 2)^2 = 9x^2 + 12x + 4$$

**Question 10**

Find and correct the errors in the statement:  $(y - 3)^2 = y^2 - 9$

**Answer**

$$\text{LHS} = (y - 3)^2 = y^2 - 6y + 9$$

$$\text{RHS} = y^2 - 9$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$(y - 3)^2 = y^2 - 6y + 9$$

**Question 11**

Find and correct the errors in the statement:  $(z + 5)^2 = z^2 + 25$

**Answer**

$$\text{LHS} = (z + 5)^2 = z^2 + 10z + 25$$

$$\text{RHS} = z^2 + 25$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$(z + 5)^2 = z^2 + 10z + 25$$

**Question 12**

Find and correct the errors in the statement:  $(2a + 3b)(a - b) = 2a^2 - 3b^2$

**Answer**

$$\text{LHS} = (2a + 3b)(a - b) = 2a^2 - 2ab + 3ab - 3b^2 = 2a^2 + ab - 3b^2$$

$$\text{RHS} = 2a^2 - 3b^2$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$(2a + 3b)(a - b) = 2a^2 + ab - 3b^2$$

**Question 13**

Find and correct the errors in the statement:  $(a + 4)(a + 2) = a^2 + 8$

**Answer**

$$\text{LHS} = (a + 4)(a + 2) = a^2 + 2a + 4a + 8 = a^2 + 6a + 8$$

$$\text{RHS} = a^2 + 8$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$(a + 4)(a + 2) = a^2 + 6a + 8$$

**Question 14**

Find and correct the errors in the statement:  $(a - 4)(a - 2) = a^2 - 8$

**Answer**

$$\text{LHS} = (a - 4)(a - 2) = a^2 - 2a - 4a + 8 = a^2 - 6a + 8$$

$$\text{RHS} = a^2 - 8$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$(a - 4)(a - 2) = a^2 - 6a + 8$$

### Question 15

Find and correct the errors in the statement:  $3x^2/3x^2 = 0$

#### Answer

$$\text{LHS} = 3x^2/3x^2 = 1$$

$$\text{RHS} = 0$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$3x^2/3x^2 = 1$$

### Question 16

Find and correct the errors in the statement:

$$(3x^2+1)/3x^2 = 1+1=2$$

#### Answer

$$\text{LHS} = (3x^2+1)/3x^2 = 1 + 1/3x^2$$

$$\text{RHS} = 1+1$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$(3x^2+1)/3x^2 = 1 + 1/3x^2$$

### Question 17

Find and correct the errors in the statement:

$$3x/(3x+2) = 1/2$$

**Answer**

$$\text{LHS} = 3x/(3x+2)$$

$$\text{RHS} = 1/2$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$3x/(3x+2) = 3x/(3x+2)$$

**Question 18**

Find and correct the errors in the statement:

$$3/(4x+3) = 1/4x$$

**Answer**

$$\text{LHS} = 3/(4x+3)$$

$$\text{RHS} = 1/4x$$

$$\text{LHS} \neq \text{RHS}$$

Correct statement would be

$$3/(4x+3) = 3/(4x+3)$$

**Question 19**

Find and correct the errors in the statement:

$$(4x+5)/4x = 5$$

**Answer**

$$\text{LHS} = (4x+5)/4x = 1 + 5/4x$$

$$\text{RHS} = 5$$

LHS  $\neq$  RHS

Correct statement would be

$$(4x+5)/4x = 1 + 5/4x$$

### Question 20

Find and correct the errors in the statement:

$$(7x+5)/5 = 7x$$

### Answer

$$\text{LHS} = (7x+5)/5 = 7x/5 + 1$$

$$\text{RHS} = 7x$$

LHS  $\neq$  RHS

Correct statement would be

$$(7x+5)/5 = 7x/5 + 1$$