

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

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