NCERT SOLUTIONS CLASS-8 MATHS CHAPTER-14 EXERCISE-14.4

Question 1:

Find the error in the following statement and correct it: $5(a – 4) = 5a – 4$

sol.

L.H.S. $= 5(a – 4) = 5a – 20 \neq$ R.H.S.

Hence, the correct statement is $5a – 20$.

Question 2:

Find the error in the following statement and correct it: $a(3a + 2) = 3a^2 + 2$

sol.

L.H.S. $= a(3a + 2) = 3a^2 + 2a \neq$ R.H.S.

Hence, the correct statement is $a(3a + 2) = 3a^2 + 2a$.

Question 3:

Find the error in the following statement and correct it: $2a + 3b = 5ab$

sol.

L.H.S. $= 2a + 3b \neq$ R.H.S.

Hence, the correct statement is $2a + 3b = 2a + 3b$.

Question 4:

Find the error in the following statement and correct it: $a + 2a + 3a = 5a$

sol.

L.H.S. $= a + 2a + 3a = 6a \neq$ R.H.S.

Hence, the correct statement is $a + 2a + 3a = 6a$.

Question 5:

Find the error in the following statement and correct it: $5b + 2b + b – 7b = 0$

sol.

L.H.S. $= 5b + 2b + b – 7b = b \neq$ R.H.S.

Hence, the correct statement is $5b + 2b + b – 7b = b$.

Question 6:

Find the error in the following statement and correct it: $3a + 2a = 5a^2$

sol.

L.H.S. = 3a + 2a = 5a ≠ R.H.S.

Hence, the correct statement is 3a + 2a = 5a.

Question 7:

Find the error in the following statement and correct it: $(2a)^2 + 4(2a) + 7 = 2a^2 + 8a + 7$

sol.

L.H.S. = $(2a)^2 + 4(2a) + 7 = 4a^2 + 8a + 7 \neq$ R.H.S.

Hence, the correct statement is $(2a)^2 + 4(2a) + 7 = 4a^2 + 8a + 7$.

Question 8:

Find the error in the following statement and correct it: $(2a)^2 + 5a = 4a + 5a = 9a$

sol.

L.H.S. = $(2a)^2 + 5a = 4a^2 + 5a \neq$ R.H.S.

Hence, the correct statement is $(2a)^2 + 5a = 4a^2 + 5a$.

Question 9:

Find the error in the following statement and correct it: $(3a + 2)^2 = 3a^2 + 6a + 4$

sol.

L.H.S. = $(3a + 2)^2 = (3a)^2 + 2 \times 3a \times 2 + (2)^2 = 9a^2 + 12a + 4 \neq$ R.H.S.

Hence, the correct statement is $(3a + 2)^2 = 9a^2 + 12a + 4$.

Question 10:

Find the error in the following statement and correct it:

Substituting a = -3 in:

i) $a^2 + 5a + 4$ gives 15

ii) $a^2 – 5a + 4$ gives -2

iii) $a^2 + 5a = -24$

sol.

i) L.H.S. = $a^2 + 5a + 4$

Substituting a= -3,

= $(-3)^2 + 5(-3) + 4$

= 9 – 15 + 4

= -2 ≠ R.H.S.

Hence, $a^2 + 5a + 4 = -2$.

ii) L.H.S. = $a^2 – 5a + 4$

Substituting a= -3,

= $(-3)^2 – 5(-3) + 4$

= 9 + 15 + 4

= 28 ≠ R.H.S.

Hence, $a^2 – 5a + 4 = 28$.

iii) L.H.S. = $a^2 + 5a$

Substituting a= -3,

= $(-3)^2 + 5(-3)$

= 9 – 15

=-6 ≠ R.H.S.

Hence, $a^2 + 5a = -6$.

Question 11:

Find the error in the following statement and correct it: $(b – 3)^2 = b^2 – 9$.

sol.

L.H.S. = $(b – 3)^2 = b^2 – 2 \times b \times 3 + (3)^2 = b^2 – 6b + 9 \neq$ R.H.S.

Hence, the correct statement is $(b – 3)^2 = b^2 – 6b + 9$.

Question 12:

Find the error in the following statement and correct it: $(c + 5)^2 = c^2 + 25$.

sol.

L.H.S. = $(c + 5)^2 = c^2 + 2 \times c \times 5 + (5)^2 = c^2 – 10b + 25 \neq$ R.H.S.

Hence, the correct statement is $(c + 5)^2 = c^2 – 10b + 25$.

Question 13:

Find the error in the following statement and correct it: $(2x + 3y)(x – y) = 2x^2 – 3y^2$

Find the error in the following statement and correct it: $(2x + 3y)(x - y) = 2x - 3y$.

sol.

L.H.S. = (2x + 3y)(x – y) = 2x(x – y) + 3y(x – y)

= $2x^2 – 2ab + 3ab – 3b^2 = 2a^2 + ab – 3b^2$ ≠ R.H.S.

Hence, the correct statement is $(2x + 3y)(x – y) = 2a^2 + ab – 3b^2$.

Question 14:

Find the error in the following statement and correct it: $(x + 4)(x + 2) = x^2 + 8$.

sol.

L.H.S. = (x + 4)(x + 2) = x(x +2) + 4(x + 2)

= $x^2 + 2x + 4x + 8 = x^2 + 6x + 8$ ≠ R.H.S.

Hence, the correct statement is $(x + 4)(x + 2) = 2a^2 + x^2 + 6x + 8$.

Question 15:

Find the error in the following statement and correct it: $\frac{3x^2}{3x^2} = 0$

sol.

L.H.S. = $\frac{3x^2}{3x^2} = \frac{1}{1} = 1$ ≠ R.H.S.

Hence, the correct statement is $\frac{3x^2}{3x^2} = 1$.

Question 16:

Find the error in the following statement and correct it: $\frac{3x^2+1}{3x^2} = 1 + 1 = 2$

sol.

L.H.S. = $\frac{3x^2+1}{3x^2} = \frac{3x^2}{3x^2} + \frac{1}{3x^2} = 1 + \frac{1}{3x^2}$ ≠ R.H.S.

Hence, the correct statement is $\frac{3x^2+1}{3x^2} = 1 + \frac{1}{3x^2}$.

Question 17:

Find the error in the following statement and correct it: $\frac{3x}{3x+2} = \frac{1}{2}$

sol.

L.H.S. = $\frac{3x}{3x+2}$ ≠ R.H.S.

Hence, the correct statement is $\frac{3x}{3x+2} = \frac{3x}{3x+2}$.

Question 18:

Find the error in the following statement and correct it: $\frac{3}{4x+3} = \frac{1}{4x}$

sol.

L.H.S. = $\frac{3}{4x+3}$ ≠ R.H.S.

Hence, the correct statement is $\frac{3}{4x+3} = \frac{3}{4x+3}$.

Question 19:

Find the error in the following statement and correct it: $\frac{4x+5}{4x} = 5$

sol.

L.H.S. = $\frac{4x+5}{4x} = \frac{4x}{4x} + \frac{5}{4x} = 1 + \frac{5}{4x}$ ≠ R.H.S.

Hence, the correct statement is $\frac{4x+5}{4x} = 1 + \frac{5}{4x}$.

Question 20:

Find the error in the following statement and correct it: $\frac{7x+5}{5} = 7x$

sol.

L.H.S. = $\frac{7x+5}{5} = \frac{7x}{5} + \frac{5}{5} = \frac{7x}{5} + 1$ ≠ R.H.S.

Hence, the correct statement is $\frac{7x+5}{5} = \frac{7x}{5} + 1$.