

Work Sheet – 01 (Mathematics)
for class – Ten (31.10.2020)
Chapter – Five, Exercise - 5.1
Equation in one variable
Creative Multiplication Choice Questions

1. If $3(5x - 3) = 2(x + 2)$ then $x =$ What?

[D.B.- 20]

- a) -2 b) -1
 c) $\frac{13}{17}$ d) 1

2. What is then solution set of the equation $y^2 = \sqrt{7}y$?

[D.B.- 20]

- a) $\{0, -\sqrt{7}\}$ b) $\{\sqrt{7}\}$
 c) $\{0, \sqrt{7}\}$ d) $\{0, 7\}$

3. Which one is the solution set of $2x - 1 = \frac{1 - 2x}{x}$?

[My.B.- 20]

- a) $\{\frac{1}{2}, 1\}$ b) $\{-1, -\frac{1}{2}\}$
 c) $\{-1, \frac{1}{2}\}$ d) $\{1, -\frac{1}{2}\}$

4. If $x = \sqrt{2x - 1}$ then what is the value of x ?

[My.B.- 20]

- a) 2 b) 1
 c) 0 d) -1

5. Which one of the following solutions of the equation $2y^2 = 4py$?

[Ctg.B.- 20, R.B.- 20]

- a) $(0, 4p)$ b) $(0, 2p)$
 c) $(0, -2p)$ d) $(2, 2p)$

6. $(x - 4)^2 = x^2 - 8x + 16$ it is-[Ctg.B.- 20]

- i. An identity.
 ii. An equation.
 iii. Satisfied for all values of x .

Which one of the following is correct?

- a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii

7. How many roots of the equation $(x - 4)^2 = 0$ have?

[S.B.- 20]

- a) 1 b) 2
 c) 3 d) 4

Ans: b

8. Which one is the identity? [J.B.- 20]

- a) $(x + 2)^2 + (x - 2)^2 = 2x^2 + 8$
 b) $(x + y)^2 + (x - y)^2 = 4xy$
 c) $(x + y)^2 - (x - y)^2 = 2(x^2 + y^2)$
 d) $(x + 4)^2 + (x - 4)^2 = 2x^2 + 16$

9. What is the constant of the equation at $4x^3 - 5x - 2 + a = 0$ for the x variable?

[J.B.- 20]

- a) -2 b) 2
 c) A d) $a - 2$

10. Which one of the following is the solution set of the equation $\sqrt{4x - 3} + 5 = 2$?

[B.B.- 20]

- a) $\{ \}$ b) $\{0\}$
 c) $\{-3\}$ d) $\{3\}$

11. For the equation $x^2 - \frac{4}{x^2} = 0$ then -

[C.B.- 20]

- i. The highest degree of the variable is 4.
 ii. Two roots are $(\sqrt{2}, -\sqrt{2})$.
 iii. The constant term is 4.

Which one of the following is correct?

- a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii

12. Which one of the following is the correct solution set $\sqrt{2x - 5} + 3 = 2$?

[D.B.- 19, R.B.- 19, 15, Ctg.B.- 15, S.B.- 15]

- a) $\{ \}$ b) $\{-3\}$
 c) $\{\pm 3\}$ d) $\{3\}$

13. Which one is the solution set of the equation $\sqrt{5x - \frac{5}{2}} + 2 = 1$?

[Dj.B.- 19]

- a) $\{\frac{3}{10}\}$ b) $\{\frac{7}{10}\}$
 c) $\{ \emptyset \}$ d) $\{ \}$

14. Which one is the solution set of the equation $y^2 - \sqrt{5}y = 0$?

[C.B.- 19]

- a) $\{0\}$ b) $\{\sqrt{5}\}$
 c) $\{0, -\sqrt{5}\}$ d) $\{0, \sqrt{5}\}$

15. Which is the solution set of the equation $y^2 = 2y$?

[S.B.- 19]

- a) $\{ \}$ b) $\{0\}$
 c) $\{2\}$ d) $\{0, 2\}$

16. Which one is solution set of the equation $5x^2 - x - 4 = 0$?

[B.B.- 19]

- a) $\{-\frac{4}{5}, 1\}$ b) $\{-1, \frac{4}{5}\}$
 c) $\{-1, -\frac{4}{5}\}$ d) $\{1, \frac{4}{5}\}$

17. Which one of the following is an identity?

[Dj.B.- 19]

- a) $(x - 3)^2 + (x + 3)^2 = 2(x^2 + 9)$
 b) $(x + 2)^2 + (x - 2)^2 = x^2 + 4$
 c) $x^3 - y^3 = (x + y)(x^2 + xy + y^2)$
 d) $(x + y)^2 + (x - y)^2 = 4xy$

18. If 1 is added to the numerator of a fraction, the value of the fraction is 1. Again if 4 is added to the denominator the value of the fraction is $\frac{1}{2}$ then What is the fraction? [Ctg.B.- 19]

- a) $\frac{3}{4}$ b) $\frac{4}{5}$
 c) $\frac{5}{6}$ d) $\frac{6}{5}$

19. If $(x + 3)(x - 3) = 16$ then what is the value of x? [All B.- 18]

- a) ± 5 b) ± 4
 c) 4 d) 5

20. If $(x - a - b)\left(\frac{1}{a} + \frac{1}{b}\right) = 0$ then what is the value of x? [Dj.B.- 17]

- a) $(a + b)$ b) $-(a + b)$
 c) $\left(\frac{1}{a} + \frac{1}{b}\right)$ d) $\frac{(b+a)}{ab}$

21. Which one is the solution set of $y^2 = 9y$? [S.B.- 17]

- a) $\{0, -3\}$ b) $\{0, 3\}$
 c) $\{0, -9\}$ d) $\{0, 9\}$

Answer to the questions no. (22 – 23) on the basis of the following information:

In a two digits number the digit of the tens place is thrice the digit of the unit place.

22. If the digit of the unit place is x then what is the number? [Ctg.B.- 17]

- a) X b) 3x
 c) 30x d) 31x

23. If the places of the digits are interchanged then what will be the number? [Ctg.B.- 17]

- a) 11x b) 13x
 c) 30x d) 31x

24. Which is the solution set of the equation $x^2 = \sqrt{2}x$?

- [J.B.- 17, Dj.B.- 16]
 a) $\{0\}$ b) $\{0, \sqrt{2}\}$
 c) $\{\sqrt{2}\}$ d) \emptyset

25. The digit of the ten's place of a number consisting of two digits is thrice the digit of the one's place. If the digit of one's place is P then what is the number? [D.B.- 16, C.B.- 15]

- a) 3P b) 4P
 c) 21P d) 31P

26. What is one root of equation $x^2 - x - 12 = 0$? [Dj.B.- 16]

- a) -7 b) 1
 c) 3 d) 4

27. Which one is the solution set of the equation $(x + 7)(x - 7) = 15$?

[Ctg.B.- 16]

- a) $\{-7, 7\}$ b) $\{-8, 8\}$
 c) $\{-8, 22\}$ d) $\{8, 22\}$

28. Which one is the root of the equation $\frac{2}{x+1} = \frac{3}{2x-1}$? [B.B.- 16]

- a) -5 b) -3
 c) 3 d) 5

29. If the equation $3x^2 - 1 = 0$ is compared with the equation $ax^2 + bx + c = 0$ then the value of b.

[R.B.- 16]

- a) 0 b) 1
 c) 2 d) 3

30. Which one is the solution set of equation $y^2 - 9 = 0$? [S.B.- 16]

- a) $\{-3\}$ b) $\{3\}$
 c) $\{-3, 3\}$ d) $\{3, 3\}$

31. If $x - 3 = \frac{x-3}{x}$ them what is the value of x? [J.B.- 15]

- a) 1, 3 b) 1
 c) 3 d) 2, 3

32. Compare $3 + 2x^2 + x = 0$ with the equation $ax^2 + bx + c = 0$ and find out the value of b. [D.B.- 15]

- a) 3 b) 2
 c) 1 d) 0

33. Which of the following is an identity? [Dj.B.- 15]

- a) $(x + 1)^2 - (x - 1)^2 = 4x$
 b) $(x + 1)^2 - (x - 1)^2 = 2(x^2 + 1)$
 c) $(x + y)^2 - (x - y)^2 = 2xy$
 d) $(x - y)^2 = x^2 + 2xy + y^2$

34. If the digit of tens place is twice the digit of unit place of a two-digit number and if the digit of unit place is x then what is the number? [J.B.- 15]

- a) $21x$ b) $12x$
 c) $3x$ d) $2x$

35. How many roots of the equation $(x^2 - 3)^2 = 0$? [Dj.B.- 15]

- a) 1 b) 2
 c) 3 d) 4

36. If $x = 2 + \sqrt{3}$ then what is the value of x^2 ? [S.B.- 15]

- a) $7 - 4\sqrt{3}$ b) $7 + 4\sqrt{3}$
 c) $7 - 2\sqrt{3}$ d) $7 + 3\sqrt{3}$

37. If $\frac{x}{-14} = \frac{y}{-28} = \frac{1}{-14}$ then the value of (x, y) = What? [J.B.- 15]

- a) $(1, 2)$ b) $(2, 1)$
 c) $(-1, -2)$ d) $(-2, -1)$

38. If $(x + 3, y - 5) = (5, 3)$ then the value of $(x, y) =$ What? [Ctg.B.- 15]

- a) $(2, -2)$ b) $(2, 8)$
 c) $(0, 10)$ d) $(8, 8)$

39. What is the value of x for $\frac{x-a}{a^2-b^2} = \frac{x-b}{b^2-a^2}$?

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

40. What is the solution set of the equation $\sqrt{2x-5} + 3 = 2$

- a) $\{0\}$ b) $\{1\}$
 c) $\{\}$ d) $\{4\}$

41. Of which fraction 5 is to be subtracted from the numerator and denominator so that the fraction will be $\frac{1}{2}$?

- a) $\frac{7}{9}$ b) $\frac{9}{7}$
 c) $\frac{3}{5}$ d) $\frac{5}{3}$

42. What is the solution set of the equation $5x^2 = 5\sqrt{5}x$?

- a) $\{5, \sqrt{5}\}$ b) $\{0, \sqrt{5}\}$
 c) $\{5, 5\sqrt{5}\}$ d) $\{\sqrt{5}\}$

43. Sum of the numerator and denominator of a proper fraction is 5

and their difference is 1 then what is the function?

- a) $\frac{1}{5}$ b) $\frac{1}{4}$
 c) $\frac{2}{3}$ d) $\frac{3}{2}$

44. What is the solution set of $x + \frac{1}{x} = 2$?

- a) $\{1, 1\}$ b) $(1, 1)$
 c) $[1, 1]$ d) $\{1, 2\}$

45. Which one of the following is the solution set of the equation $x^2 - (a+b)x + ab = 0$?

- a) $\{a, b\}$ b) $\{a, -b\}$
 c) $\{-a, b\}$ d) $\{-a, -b\}$

46. Which one is the correct solution set of $\sqrt{2x-3} + 5 = 2$?

- a) $\{6\}$ b) $\{-6\}$
 c) $\{\pm 6\}$ d) $\{\}$

As many students are there in a class each of them contributes equal to the number of elements of the class and thus total tk 420 was collected.

Answer to the questions no. (47 - 48):

47. What is the number of students in the class?

- a) 20 b) 21
 c) 60 d) 7

48. How much did each student contribute?

- a) 20 b) 21
 c) 60 d) 7

49. Which one is the constant of $x^3 - \frac{1}{x} = 4x$?

- a) 5 b) 4
 c) 3 d) -1

50. In the equation $x + a = 10$ then $x =$ what?

- a) Constant b) Variable
 c) Degree d) Co-efficient

51. What is the degree of the variable in the equation $7x - 5 - 9 = 4x + 4$?

- a) 1 b) 2
 c) 3 d) 4