Work sheet- 2 for class- Nine
Chapter- Five
Exercise-5.2
Equation

Creative Multiplication Choice Questions

Answer to the questions No. (1 – 2) according to the following information: $p = x^2 - 3x - 36$.

1. What is the discriminant of the equation $p = 0$? [J.B.- 19]
   a) $\sqrt{135}$
   b) $\sqrt{153}$
   c) 135
   d) 153

2. What is the solution of the equation $\sqrt{p} - 2 = 0$? [J.B.- 19]
   a) $8, -5$
   b) $-8, 5$
   c) 8
   d) -5

3. $\sqrt{(x-1)(x-2)} + \sqrt{(x-3)(x-4)} = \sqrt{2}$ then the solution is - [B.B.- 16]
   a) $(0, 2)$
   b) $(0, 3)$
   c) $(2, 3)$
   d) $(3, 5)$

4. $\sqrt{x-4} = \sqrt{x+12} - 2$ then which one is the root of the equation? [Dj.B.- 15]
   a) 5
   b) 7
   c) 13
   d) 15

5. If $\sqrt{8x+9} - \sqrt{2x+15} = \sqrt{2x-6}$ then x = What?
   a) -5
   b) 0
   c) 5
   d) 6

6. What is the root of the equation $\sqrt{x-4} = \sqrt{x+12} - 2$?
   a) 5
   b) 7
   c) 13
   d) 15
   Ans: c

7. Find the value of x in $\sqrt{2x^2+4} + \sqrt{3x^2+9} = 5$.
   a) 0
   b) 2
   c) 3
   d) 5

8. Which pair is the solution of $\sqrt{2x+8} = 2\sqrt{x+5} - 2$?
   a) $5, -5$
   b) $4, -4$
   c) $6, 6$
   d) $1, -1$

9. Which one is the root of the equation $\sqrt{8x+9} = \sqrt{2x+15} + \sqrt{2x-6}$?
   a) -5
   b) -2
   c) 2
   d) 5

10. Find the value of x in $\sqrt{2x+16} - \sqrt{3x+9} = 7$ by the help of verification rule.
    a) 0
    b) 2
    c) 3
    d) 7

11. Solution of $\sqrt{x^2-6x+15} - \sqrt{x^2-6x+13} = \sqrt{10} - \sqrt{8}$ is-
    a) 5
    b) 6
    c) 3
    d) 2

12. Which is the root of the equation $\sqrt{2x+1} = 3$?
    a) -4
    b) -2
    c) 2
    d) 4

13. Which of the following is a root of the equation $\sqrt{x-4} + 2 = \sqrt{x+12}$?
    a) 3
    b) 4
    c) 12
    d) 13

14. Which of the following is a root of the equation $\sqrt{8x+9} - \sqrt{2x+15} = \sqrt{2x-6}$?
    a) -5
    b) 0
    c) 5
    d) 6

15. Which is the solution of the equation $\sqrt{x^2-2} = 3$?
    a) $-\sqrt{11}$
    b) $\sqrt{11}$
    c) $\pm\sqrt{11}$
    d) 11

16. Which is the following being the solution of the equation $\sqrt{x+5} - 1 = 0$?
    a) $x = -6$
    b) $x = -5$
    c) $x = -4$
    d) $x = 0$

17. Which is the solution of the equation $\sqrt{\dfrac{x}{x+16}} = 0$?
    a) -16
    b) 0
    c) 16
    d) 17

18. Which is the solution of the equation $\sqrt{11x-6} = \sqrt{x-1}$?
    a) $-\dfrac{1}{2}$
    b) $\dfrac{1}{2}$
    c) 2
    d) 10

19. Which is the solution of the equation $\sqrt{11x-6} = \sqrt{x+14}$?

a) 10   b) 5

c) 2   d) $\frac{1}{2}$

20. Which is the solution of the equation $\sqrt{x+4} = \sqrt{8x+9}$?

a) $\frac{-5}{7}$ b) $\frac{5}{7}$

c) 5   d) 7

21. Which is the solution of the equation $\sqrt{x^2+1} = \sqrt{2x}$?

a) -1 b) 1

c) 1, 1   d) 2, 2

22. Which is the solution of the equation $4\sqrt{x+5} = x+8$?

a) -4 b) 4

c) ± 4 d) 16

23. If $(1-x)^{\frac{1}{2}} = 4$ then what is the value of x?

a) -15 b) 15

c) 16   d) 25

24. Which is the solution of the equation $\sqrt{2x^2+5x-9} = 1$?

a) $\frac{-5+\sqrt{-105}}{4}$ b) $\frac{-5-\sqrt{-105}}{4}$

c) $\frac{-5\pm\sqrt{105}}{4}$ d) $\frac{4\pm\sqrt{105}}{4}$

25. Which is the solution of the equation $\sqrt{x^2-6x+9} - \sqrt{x^2-7x+6} = 0$?

a) -3 b) 0

c) 3   d) 6

26. If $(1+x)^{\frac{1}{3}} = 2$ then what is the value of x?

a) 1   b) 2

c) 3   d) 7

27. Which is the solution of the equation $\sqrt[3]{\frac{x-1}{3x+2}} = 2$?

a) 23   b) 17

c) $\frac{17}{23}$ d) $\frac{-17}{23}$

28. Which is the solution of the equation $(1+x)^{\frac{1}{3}}(1-x)^{\frac{1}{3}} = 0$?

a) 0   b) ± 1

c) 2   d) $\frac{1}{3}$

29. Which is the solution of the equation $(2+x)^{\frac{1}{3}}(2-x)^{\frac{1}{3}} = 4^{\frac{1}{3}}$?

a) -2 b) 0

c) ± 2 d) 2

30. If $\sqrt{x^2+4} = 2\sqrt{x}$ then -

i. $x = -2$

ii. $x = 2$

iii. $(x-2)^2 = 0$

Which one of the following is correct?

a) i and ii   b) i and iii

c) ii and iii   d) i, ii and iii

31. If $\sqrt{x+9} - \sqrt{x+6} = 1$ then -

i. $(x+7) = \sqrt{(x+9)(x+6)}$

ii. $x \neq 5$

iii. $x = -6$

Which one of the following is correct?

a) i and ii   b) i and iii

c) ii and iii   d) i, ii and iii

Creative Questions:

1. $\frac{2y}{y-1}$ and $y \neq 0, y \neq 1$

a) If $q = \frac{8}{y}$ then find the value of y.

b) If $\left\{\frac{2(q+y)}{q}\right\}^{\frac{1}{3}} + \left(-\frac{2y}{q}\right)^{\frac{1}{3}} = 2^{\frac{1}{3}}$ then find the value of y.

c) If $6\sqrt{q} + 5\sqrt{\frac{1}{q}}$ then what is the value of $(y+4)$?

2. $\sqrt{11x-6} = \sqrt{4x+5} - \sqrt{x-1}$ is an algebraic equation.

a) From the given equation show that, $\sqrt{4x^2+x-5} = 5-3x$.

b) Find the possible roots of the equation.

c) Verify the solutions of the given equation.