



ANNUAL EXAMINATION, 2017-18

GRADE: VIII

**SUBJECT: MATHEMATICS
WORKSHEET-2**

Solving Equations

Simplify the following.

1. $x+34= 2x-24$
2. $3(x+ 6)= 2(3x-7)$
3. $\frac{3}{4} (x+ 9) = 21$
4. $\frac{x+2}{x-2} = 7$
5. Sum of cost of a bag and a pen is \$ 26. If the sum of 5 pens and 3 bags is \$ 210, find the cost of a pen and a bag.
6. The sum of numerator and denominator of a fraction is 12. If 1 added to the numerator and 2 subtracted denominator, the fraction becomes $\frac{4}{7}$. Find the original fraction.

Histogram

7. Form a frequency distribution table for the following data. One of the class is 10-15.

4	5	6	8	12	34	6	34	23
7	32	21	27	28	25	19	23	16
2	19	10	9	13	17	14	38	39

8. Form a histogram for the following:

Class	Frequency
10-20	45
20-30	22
30-40	15
40-50	40
50-60	50
60-70	62

Squares and Square Roots:

9. Without actual calculation find the no of digits in the sq roots of the following.

a) 145766 b) 20250000

10. Find the sq root of by factorization method

a) 15876 b) 2304 c) $\frac{1024}{676}$

11. Using long division find the sq root of the following

a) 7056 b) 6084

12. Find $\sqrt{163.84}$

13. Find $\sqrt{5.64}$

14. Form a Pythagorean triplet, if one of the number is

a) 18 b) 26

15. In a school assembly, students were standing in same no. of rows and columns: If there are 15376 students in the school, find the no. of rows and columns.

Exponents

16. Write 0.000000004508 in standard form.

17. Write 675400000000 in standard form.

18. Simplify $\left(\frac{32}{343}\right)^{\frac{-2}{5}} \times \left(\frac{25}{256}\right)^{\frac{1}{2}}$

Algebraic Expressions:

19. Find the sum of the following:
- $2x^2 + 3x - 8$ and $-12x^2 - 15x - 16$
 - $3y^2 + 16x - 2xy$ and $3x^2 + 25y - 5y$
20. Subtract the sum of $11y^2 - 16x - 20xy + 2$ and $3y^2 - 6y - 5xy$ from the sum of $21y^2 - 31x - 11xy + 1$ and $y^2 - 11x - 6$
21. Simplify $(2x^2 + 3x - 23) + (3x^2 - 11x + 7) - (7x^2 - 3x - 110)$
22. Find the difference of $6a^2 - 3a + 20$ and $7a^2 - 15a - 30$

Multiplication of Algebraic Expressions:

23. Multiply $5x^2$ with $3x + 2x - 5xy$
24. Multiply $6a^2 + 2a$ with $3a^2 + 2a$
25. Multiply $7y^2 - 9y + 3$ with $13y^3 - 2y^2 + 3xy$
26. Add the product of $3x + 2xy$ and $x^2 + y$ with the product of $x^2 - 3xy + 2$ and $2x - 3y$

Factorisation

27. Factorise $3x^2 - 45x + 15$
28. Factorise a) $16x^2 - 49$ b) $a^2 - 9b^2$
29. Factorise a) $64x^2 - 80x + 25$ b) $\frac{1}{4}a^2 - \frac{3}{5}ab + \frac{9}{25}b^2$
30. Factorise a) $x^2 + 9x + 20$ b) $y^2 - y + 12$
31. Factorise $50a^2 - 140ab + 98b^2$

Surface Area and Volume

32. Find LSA, TSA and Volume of a cuboid of length 3m breadth 1.5m and height 40 cm.
33. The dimensions of a room is 8m x 6m x 2.5m. Find the cost of painting the walls and the roof at the rate of Rs 120 per sq.m.
34. Find the Curved Surface Area and Volume of a cylinder with radius 70 cm and height 150 cm.

35. A cylindrical water tank has the radius 140 cm and height 2m. Find the Curved Surface area and the volume of the water.
36. Find the volume of Surface area and the volume of a solid obtained by joining 3 cubes of side 6 cm each.

Direct and Inverse Variation

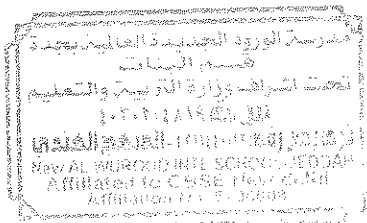
37. 3 boys require 14 riyals for snacks during a program. If 120 more boys joined in the program, how much money is required for snacks.
38. Raj can walk 3 km in 20 minutes. How much time he will require to cover a distance of 20 km.
39. 4 workers can complete a piece of work in 3 days. How many workers will be require to complete the work in 2 days.
40. 8 taps can empty a tank in 20 minutes. How many taps will be require to empty the tank in 15 minutes?
41. Plot the following points in a graph.

A(2,4) B (4, -3) C (-4, -7) D(2,0) and (6, -4)

42. Plot the points on a graph and join them.

X	3	5	6	0	-3
Y	4	6	7	1	-2

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cheese d.
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