VIDYA SHREE ACADEMY
SR. SEC. SCHOOL
An English Medium Co.Ed. School | Science & Commerce

VSA — A Real English Medium School

Little Steps — Pre Primary wing of VSA

W : www.vsajaipur.com | E : vsajaipur@gmail.com   M. : +91 9460356652, 8058999828
Add. : 84, Krishna Vihar, Behind Narayan Niwas, Gopalpura Bypass, Jaipur - 302015
/vsajaipur | /vsajaipur | /vidyashreeacademy | /vsa_jaipur

Subject: Maths   **Class: 10th**   **Topic: Holiday Assignment**

1. Use Euclid's Division algorithm to find the HCF of:
   1. 1405, 1530
   2. 367, 255
   3. 135, 225
   4. 75, 243
2. Find the least positive integer divisible by 20 and 24. (LCM)
3. What is the LCM(120,72), if HCF(120,72) is 24?
4. Find the HCF and LCM of following pairs and verify that HCF x LCM= product of two given numbers.
   a. 96, 404
   b. 90, 144
   c. 144, 180
   d. 16, 25
5. Find the LCM and HCF of following numbers by the prime factorisation method.
   a. 15, 21, 12
   b. 24, 15, 36
   c. 17, 23, 19

Find the zeroes of the following quadratic polynomials and verify the relationship between the zeroes and the coefficients.

6. $x^2 - 2x - 8$
4. $4s^2 - 4s + 1$

7. $6x^2 - 3 - 7x$
5. $4u^2 + 8u$

Find a quadratic polynomial each with the given numbers as the sum and product of its zeroes respectively. (Q8 to Q10)

8. $\frac{1}{2}, -3$

9. $\sqrt{5}, \frac{1}{\sqrt{5}}$

10. 0, 7

11. Divide $3x^3 + x^2 + 2x + 5$ by $1 + 2x + x^2$.

12. Divide $2x^2 + 3x + 1$ by $x + 2$

13. Find all the zeroes of $2x^4 - 3x^3 - 3x^2 + 6x - 2$, if you know that two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$

Divide the polynomial $p(x)$ by the polynomial $g(x)$ and find the quotient and remainder in each of the following : (Q8-Q9)

14. $p(x) = x^3 - 3x^2 + 5x - 3$,

15. $g(x) = x^2 - 2$

16. $p(x) = x^4 - 3x^2 + 4x + 5$

Check whether the first polynomial is a factor of the second polynomial by dividing the second polynomial by the first polynomial:

17. $t^2 - 3$, $2t^4 + 3t^3 - 2t^2 - 9t - 12$

18. $x^2 + 3x + 1$, $3x^4 + 5x^3 - 7x^2 + 2x + 2$

Find the roots of the following quadratic equations, if they exist, by the method of completing the square: (Q19-Q21)

19. $2x^2 - 7x + 3 = 0$

20. $2x^2 + x - 4 = 0$

21. $3x^2 - 5x + 2 = 0$

22. Sum of the areas of two squares is 468 m^2. If the difference of their perimeters is 24 m, find the sides of the two squares.

23. A train travels 360 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 1 hour less for the same journey. Find the speed of the train.

24. Find the roots of the quadratic equation $3x^2 - 2\sqrt{6}x + 2 = 0$.

25. Find the roots of the quadratic equation $100\,x^2 - 20x + 1 = 0$

26. Find two consecutive positive integers, sum of whose squares is 365.

Find the nature of the roots of the following quadratic equations. If the real roots exist, find them:

27. $3x^2 - 4\sqrt{3}x + 4 = 0$

28. $2x^2 - 6x + 3 = 0$

29. $4\sqrt{3}x^2 + 5x - 2\sqrt{3} = 0$.

30. Find the roots of the following equation: $\dfrac{1}{x+4} - \dfrac{1}{x-7} = \dfrac{11}{30}$; x≠ -4, 7.

31. A train travels at a certain average speed for a distance of 63 km and then travels a distance of 72 km at an average speed of 6 km/h more than its original

speed. If it takes 3 hours to complete the total journey, what is its original average speed?

32. A train, travelling at a uniform speed for 360 km, would have taken 48 minutes less to travel the same distance if its speed were 5 km/h more. Find the original speed of the train.

33. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$, find out whether pairs of linear equations are consistent or inconsistent.

(i) $2x - 3y = 8$; $4x - 6y = 9$ (ii) $3x - y = 2$; $6x - 2y = 4$

34. Solve the following pair of linear equations graphically:

(i) 3x + 2y = 11, 2x - 3y + 10.   (ii) 2x + y - 6 = 0; 4x + 2y - 4 = 0

35. Half the perimeter of a rectangular garden, whose length is 4 m more than its width, is 36 m. Find the dimensions of the garden.

Activity: (Total three activities)
Compulsory for all:

1. Prepare a chart on drawing sheet mentioning important details and picture/s of any one historical place in our country which has specific geometrical shape in their building architecture.

Do any two

2. Prepare a chart on drawing sheet mentioning:
   a) Table of trigonometry Ratio of specific angles.
   b) Three Trigonometry identities
   (Reference Chapter-6 and 7: Trigonometry Ratios and Identities)

3. Prepare a chart on drawing sheet to solve following linear inequalities:
        x - 2y < 0
   (Reference Chapter-4: Linear Equation and Inequalities)

4. Prepare a chart on drawing sheet mentioning formula of Arithmetic Progression and Co-ordinate Geometry.

(Reference Chapter-5 and 9)

5. Prepare a chart on drawing sheet mentioning formula of mensuration:
   a) Cube   b) Cuboid   c) Sphere
   (Reference Chapter-16: Surface Area and Volume)

6. Prepare a chart on drawing sheet mentioning formula of Statistics:
   a) Mean   b) Mode   c) Median
   (Reference Chapter-17: Measure of Central Tendency)

7. Prepare a chart on drawing sheet mentioning following symbols:
   a) Warning   b) Compulsory   c) Information