International Indian School, Riyadh

Wolrksheet -Mathematics

CLASS VII [FA- 3, FA – 4, SA- 2

1. LINES AND ANGLES

2. THE TRIANGLE AND ITS PROPERTIES

3. CONGRUENCE OF TRIANGLES

4. COMPARING QUANTITIES

5. RATIONAL NUMBERS

6. PRACTICAL GEOMETRY

7. PERIMETER AND AREA

8. ALGEBRAIC EXPRESSIONS

9. EXPONENTS AND POWERS

1.Write in exponential form:

a) 8 x p x p x p x p x y x y x y x k   b)3 x a x a x a x 3 x b x b

2.Write the coefficient of each term of the expression :

a)7m --10m + 2/3m -- m + 5   b) -3k + 15k - 6k – 4

3.Identify monomials, binomials , trinomials from the following:

a) 8b + 3a -2   b) -5a + 3b + ab – 1   c) 2/3 xyz   d) 1/4 m - 1/3 n

4. Preethi took a loan of Rs 6000 from a money lender ,who charged interest at the rate

of 15% per annum . After 2 years Preethi paid him Rs 7400 and a calculator to clear

the debt . What is the price of the calculator ?

5. From the sum of a + 3b - 9ab , 2a - b + 8ab , b + 8 and a - 3ab, subtract the

sum of -3a + 4b - 8ab and a – b + 3 + 7ab.

6.The angles of a triangle are in the ratio 5:6:7.Calculate the measures of all the angles
of the triangle.

7.The angles of a triangle are in the ratio 2:3:5. Calculate the smallest and the largest
angles of the triangle.

8.The measures of two angles of a triangle are 65 ^{0} and 35 ^{0} .Find the third angle.

9.Find the simple intrest , if Principal = Rs 5000 , Rate = 15% per annum , Time =5 yrs

10.Find the gain or loss per cent if cost price = Rs 800, selling price = Rs 720

11.One of the acute angles of a right –angled triangle is 40^0 .Find the other one.

12.The measures of two angles of a triangle are 68 ^{0} and 72^0 .Find the third angle.

13. One of the acute angles of a right triangle is $48°$. Find other acute angle.

14. One of the angles of a triangle is 110 and the other two angles are equal. What is the measure of each of these equal angles ?
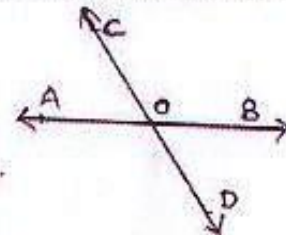
15. In the figure A B ‖ QR , find the value of < A PQ and <B PR , given that <PRQ =$55°$ and <PQR = $40°$.
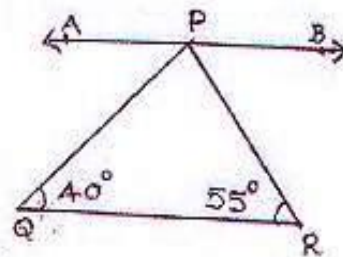
16. Find a number whose 8% is 6.

17. Add: $5x + 7y - 6z$, $4y + 3x$, $9x + 2z$ $- 9y$ and $2y -2x$.

18. From the figure write down: a) each linear pair   b) each pair of vertically opposite angles

19. Find the perimeter and area of a square whose side is 0.15 m.

20. Each side of a square is doubled. What is the change in its area?

21. The area of a rectangle is 144 m² and its length is 16 m. find its breadth.

22. Express the following per cents as fractions in simplest forms:

    a) 26%   b) 55%   c) 120%

23. Express each of the following as per cents:

    a) 1.21   b) 0.051   c) 14/25

24. What is the number whose 8% is 480?

25. In a fabric, cotton and synthetic fibres are in the ratio of 3:5. What is the percentage of cotton fibre in the fabric?

26. In an examination, Kavita obtained 72% marks. If the maximum marks are 650, find the marks obtained by Kavita.

27. 15% of the employees in a factory are females and the number of male employees is 255. Find the total number of employees. Also, find the number of female employees.

28. Sarika obtained 432 marks out of 600 and Rajeev obtained 525 marks out of 750 in annual examination. Whose performance is better?

29. After spending 80% of his income and giving 10% of the remainder to a charity, a man has Rs 446 left on him. Find his income.

30. Rosita bought a cycle for Rs 1850. He sold it to Mohan at a profit of 8%. Find the selling price of the cycle.

31. A vendor purchased 40 dozen bananas for Rs 250. Out of these, 30 bananas were rotten and could not be sold. At what rate per dozen should he sell the remaining bananas to make a profit of 20%?

32. Equal sums of Rs 30000 were lent to Rajeev and Deepak at 10.5% p.a. for a period of 3 years and 5.5 years resp. .Find the diff. of interests paid by them

33. Write the following statements algebraically:

    i) The sum of numbers x, y and z.

    ii) Product of 4 and 'x' divided by the difference of 5 and 'x'.
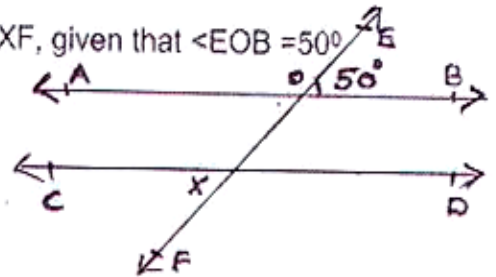
iii) Half of 'x' subtracted from 5 less than 'x'.

34. If x = 4, y=3, z = 2, find the value of x + y /xyz

35. If a = 3, b = 2 and c = 5, find the value of 2ab – bc / 3ac

36. If x = 1 and y = 3, find the value of $x^3 + y^3$ / x^2 –xy + y^2

37. In the figure AB // CD, find the values of <EOA, <OXC, <CXF, given that <EOB =50⁰

38. 38. In ΔABC, <A = 25°, <B = 50°, find <C.

39. The length of a rectangle is $2\frac{1}{5}$ times its breadth. If the breadth is 4.5 cm .Find the perimeter of the rectangle.

40. In the adjoining figure ,AB =DC and AC = DB .Prove that

   Δ ABC ≅ ΔDCB.
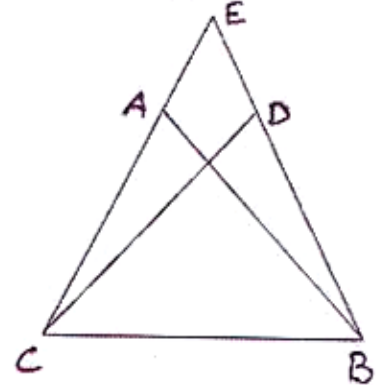
41. In Δ ABC, ∠ A =∠B. Name the equal sides.

42. Three angles of a triangle measure (2x + 3)° , (5x -2)° and (3x – 1)° respectively .

   Find the measures of these angles

43. ABCD is a rectangle. Using Pythagoras theorem ,
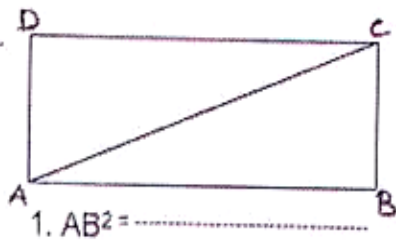
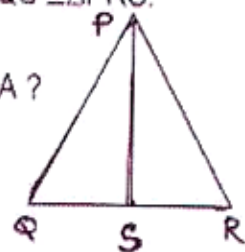   Complete the following.

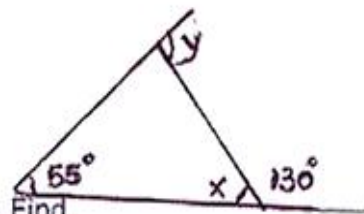   1. AB² = -------------------------------   2. AD² = -------------------------------------

44. ΔPQR is isosceles. S is the midpoint of the base QR. Prove that ΔPQS ≅ΔPRS.

45. ΔABC is isosceles with AB = AC.If ∠B =54°, what is the measure of ∠A ?

46. From the adjoining figure, find the values of x and y.

47. One of the angles of a triangle is equal to the sum of the other two. Find the measure of that angle. What type of a triangle is it?

48. Evaluate: $3 \times 9 \times 3^0$

49. Evaluate: $2^0 + 2 + 2^2$

50. A television set is sold for Rs 10,200 at a loss of 15%. Find its cost price.

51. In how many years will Rs 2500 yield a simple interest of Rs 675 at 9% per annum?

52. 15 kg of rice costs Rs 112.50. Find the cost of 24 kg of rice.

53. What per cent of 350 is 84?

54. A sum of money amounts to Rs 1550 in two years at 12% per annum. Find the sum.

55. By selling a toy at Rs 51.75, a dealer gains 15%. Find the cost price of the toy.

56. 35% of a number is 224. Find the number.

57. Find the value of m such that $(3/5)^3 \times (3/5)^{m+1} = (3/5)^8$

58. Simplify: $(5^1 \times 3^1) \div 6^1$

59. The standard ~~value~~ form of -10 / -15 is ....

60. Simplify: [-3/2 $\times$ 4/5] + [9/5 $\times$ -10/3]

61. Simplify: $[2/9]^0 \times [2/9]^4$

62. Write the product in standard form: 9/ -42 $\times$ -14 / 15.

63. A radio set costing Rs 750 is sold at a loss of 14%. What is the selling price?

79. Find the area of a parallelogram with base 8.5 cm and height 4.2 cm.

80. Find the area of a parallelogram whose base is 18 cm and height is 54 mm.

81. Find the area of a triangle whose base is 7 cm and height is 4.8 cm.

82. The area of a triangle is 216 cm². If its height is 12 cm find its base.

83. The perimeter of a square is 26 cm. Find its area.

84. $4^2 \div 2^3$ = ----------------------------

85. $7 \times 10^4 + 2 \times 10^2 + 3 \times 10$ is same as --------------------------

36. The diameter of a circle is 7 cm . Then its circumference is ---------------------.

87. If the numbers x and y both squared and added we get -------------------------.

88. The value of $3x^2 + 2x + 1$ when x is (-1) is ---------------------.

89. $\triangle$ ABC = $\triangle$ PQR. If $\angle$A = 70°, $\angle$B = 60° , then $\angle$ R = ---------------------------.

90. Express 1600 as the product of powers of its prime factors.

91. The perimeter of a rectangle is 100 cm .If the length is 30 cm.Find its breadth.Also find its area.

92. Express the numbers in the following statements in the standard form.

a) The diameter of the earth is 1, 27, 56 , 000mm .

b) In a galaxy there are on an average 100, 000 ,000 , 000 stars.

93. If $\triangle$ ABC $\cong$ $\triangle$ STR then (i) AB = ------------- (ii) $\angle$C = ---------------- (iii) AC = -------------.

94. The price of a maruthi car is Rs 4 ,00,000 in a particular year. The next year the price went up to 4,50 , 000 .What was the percentage of increase.

106. List 4 rational numbers between $\frac{-5}{7}$ and $\frac{3}{8}$.

107. The circumference of a circle is 31.4cm. Find the radius and area of the circle.

    $(\pi = 3.14)$.

108. If $\triangle ABC \cong \triangle FED$, under the correspondence, ABC $\leftrightarrow$ FED, write all the

    corresponding congruent parts of the triangles.

109. Express 432 X 270 as a product of powers of prime factors.

110. Simplify and express each of the following in exponential form

    a) $[(5^2)^3 \times 5^4] \div 5^7$

    b) $\frac{3 \times 7 \times 11}{21 \times 11}$

111. The area of a square plot is the same of a rectangular plot. If the side of the square

    plot is 60m and the length of the rectangular plot is 90m, find the breadth of the

    rectangular plot.

112. Construct a right angled triangle whose hypotenuse is 6cm long and one of the

    legs is 4cm long.

113. Simplify

    a) $2 \times 3^4 \times 2^5 / 9 \times 4^2$

    b) $(2^5)^2 \times 7^3 / 8^3 \times 7$

114. Find x and y