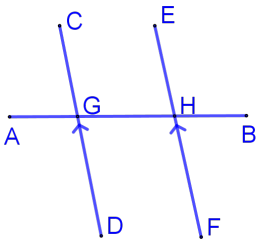
BLE MODEL QUESTION
SET C

Class: 8 Subject: Mathematics F.M.: 100
Time: 3 hours P.M.: 40

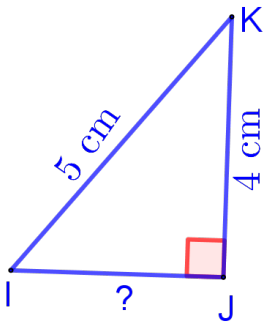
Group"A" [17 × 2 = 34]

1. (a) In the given figure, write the corresponding angle of $\angle CGH$?



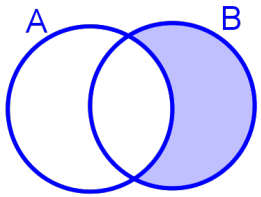
(b) If the diameter of a circle is 14 cm then find its circumference.

2. (a) In right angled ΔIJK, if $KJ = 4$ cm and $KI = 5$ cm , find the measure of IJ.



(b) Draw a diagram of the bearing NE045° using protractor.

3. (a) In the given Venn-diagram, write the shaded portion in set notation.



(b) Write 0.0000056 in scientific notation

4. (a) Find the mode from the given data.
120, 135, 125, 130, 125, 225, 325, 125, 120

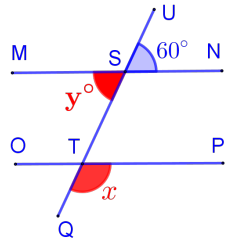
(b) Factorize: $16 - x^2$

5. (a) Find the value of: $4^2 \times 2^{-3}$

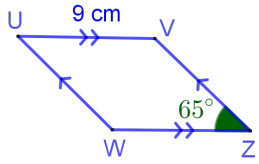
(b) In which axis the point $(2, 3)$ is reflected so that its image $(-2, 3)$ is obtained.

Group"B" [17 × 2 = 34]

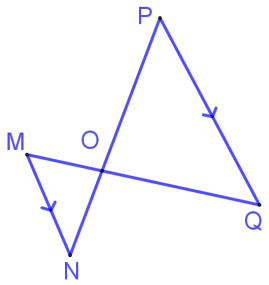
6. (a) Find the value of x and y from the given figure



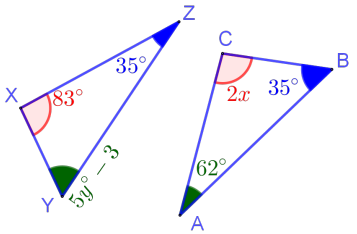
(b) In the given parallelogram, WZVU, $UV = 9$ cm, $\angle WZV = 65°$. Find the measure of $\angle WUV$ and WZ.



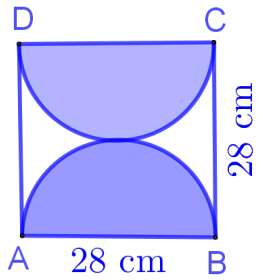
(c) In the given figure, prove that $\Delta OMN \sim \Delta OQP$.



7. (a) In the given figure, ΔXYZ and ΔABC are congruent. Find the values of x and$y$.



(b) In the given figure, if ABCD is a square and AB = BC = 28 cm, find the area of the shaded region.



8. (a) Find the distance between the points $A(-4, 3)$ and $B(1, 6)$.
   (b) Find the perimeter of the rectangle having length 60 cm and breadth 30 cm.
   (c) If $U = \{1, 2, 3, ..., 9, 10\}$, $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5, 6\}$, find the value of $A \cup B$.

9. (a) Divide Rs. 400 in the ratio of 1 : 3.
   (b) Convert 25 into binary number system.
   (c) Find the median from the given data. 27kg, 29kg, 18kg, 25kg, 32kg, 21kg, 26kg

10. (a) Factorize: $x^2 + 11x - 80$
    (b) Simplify: $\dfrac{a^2 - 2ab + b^2}{a^2 - b^2}$
    (c) Simplify: $\dfrac{x^{a+b+2} \times x^{2a-2b-3}}{x^{a+b}}$

11. (a) Solve the given inequality and show it in the number line $4x - 3 > 5$
    (b) Solve: $\dfrac{x}{2} - \dfrac{x}{3} = 10$

. Group"C" [17 × 2 = 34]

12. In a survey of 600 people, 400 like to drink tea and 150 like to drink coffee. If 40 people like to drink both of these then,
    (a) Show the above information in a Venndiagram.
    (b) Find the number of people who don't like any of them.

13. Solve: $\dfrac{x+2}{2x+9} = \dfrac{1}{x}$

14. Find the HCF of: $x^2 - 4, x^2 + 4x + 4, x^2 + 6x + 8$

15. Simplify: $\dfrac{m^2 - 6m + 9}{m^2 - 2m - 3} \div \dfrac{m^2 - 5m + 6}{m^2 - 3m + 2}$

16. Solve graphically: $2x - y = 5, x - 1 = y$

17. Find the arithmetic mean from the data given in the table:

Marks Obtained	50	40	10	30	20
No. of students	6	2	5	5	6

18. How many number of small boxes of dimensions 2 cm × 2 cm × 2 cm are needed to fill a box of length 20 cm, breadth 10 cm and height 5 cm ? Find it.

19. Simplify: $12\sqrt{24} - 3\sqrt{216} + \sqrt{600} - 5\sqrt{45}$

20. What is the selling price of a good whose marked price is Rs. 10,000 and is sold after 10% discount and levying 13% Value Added Tax (VAT) ? Find it.

21. A group of 30 workers can complete a piece of work in 21 days. What number of workers to be added to complete the work in 14 days? Find it.

22. What amount of interest will be received when Rs. 6000 is deposited in a bank for 2 years at the rate of 6% per annum, if 2% income tax should be paid to the bank? Find it.

23. Plot ΔABC with vertices A(3, 2), B(4, 4) and C(2, 5) in a graph. Translate it by 3 units right and 2 units upward and represent the images in the same graph.

24. Verify experimentally that the sum of interior angles of a triangle is equal to two right angles. (Two figures of the triangle with different measurement are required.)

25. Construct a rectangle ABCD with diagonals AC = BD = 6.5 cm intersecting at O making ∠AOB = 60°.

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