GCE O/L December 2001
Mathematics Paper 1
Duration 1 Hour

1. What is the sum? 0.78 + 0.437 .....

2. If $\frac{k}{5} = 3$ f ind the value of k.

3. Evaluate . $(-2)^3$

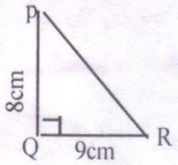
4. What is the cost of 28 plantains at Rs 2.75 each? .....

5. The number of candidates who sat a certain examination is 10 053. If 2865 of these candidates failed, how many candidates passed the examination? .....

6. I have x rupees and my brother has 5 rupees. Write down an algebraic expression for the total amount of money that both of us have .....

7. On distributing 1613 chairs among 8 schools such that each school gets an equal number of chairs, find the possible maximum number of chairs each school gets and the number of chairs that remains thereafter.
Maximum number of chairs ..... Remaining number of chairs.....

8. A right angled triangle PQR is shown in the diagram. The lengths of the sides PQ and QR are 8cm and 9cm respectively. What is the area of triangle PQR in square centimetres? .....

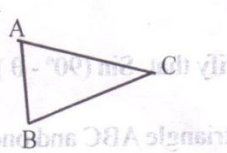


9. Write down in ascending order, $\frac{5}{8}, \frac{5}{6}, \frac{5}{9}$ .....

10. The triangles ABC and PQR are congruent. The following step were written to show that they are congruent. Fill in the blank step. In the triangles ABC and PQR

AB	=	PQ
BC	=	QR
.....	=	.....

$\therefore \Delta ABC \equiv \Delta PQR$



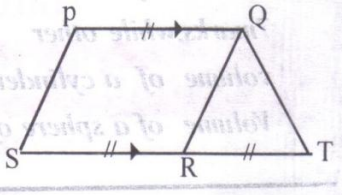
11. Simplify. $1\frac{1}{4} \times \left(\frac{1}{3} + \frac{2}{5}\right)$ .....

12. if a = 5 and p = -3 find the value of $2a^2 - 3p$ .....

13. Solve : $3x - 2(x - 2) = 3x + 5$ .....

14. Let p = { x : x Z, -1 < x ≤ 3 }
Write down the elements of the above set P .....

15. According to the given diagram what fraction of the area of trapezium PQTS is the area of triangle QRT? .....



16. Write down the quadratic equation whose roots are 2 and - 3 .....

17. " In an isosceles right angled triangle the value of the greatest angle is 90^0." Establish this fact giving reasons.

18. The lenght of a rectangular sheet of paper is 12.5 cm and its breadth is 8cm. Find the length of a side of a square piece of paper equal in area to the given rectangle. .....

19. Three points P, Q and R lie on the circle shown in the given diagram. RT is a tangent to the circle at R. PQ// RT. Explain why PQR is an isosceles triangle.
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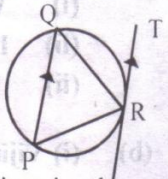

20. " I have equal number of brothers and sisters" says a boy in a family. " The number of brothers I have is twice the number

the above statements are true, find the number of boys and the number of girls in this family.
Boy ..... Girls .....

21. Simplify $\frac{x}{x+1} - \frac{x}{x(x+1)}$ .....

22. Simplify $1101_{two} + 32_{four}$ .....
(State the base of the number you get as the answer.)

23. Whar is the common ratio of the geometric progression a, $2a^2$, $4a^3$, ...? Find the sixth term of this progression.
common ratio ..... 6^{th} term .....

24. The side BC of an equilateral triangle ABC is produced to D such that BC = CD . Draw a rough sketch and mark this data. Find the value of ADC . .....

25. A shop A gives a discount of 25% on selling an article whose marked price is Rs. 300. Another shop B gives a discount of 30% on selling an article of the same kind whose marked price is Rs. 310. From which shop will it be cheaper to buy this article? .....

26. In the given diagram, the lengths of the sides of the right angled triangle ABC are given in terms of x. Form a quadratic equation in x to express the relationship between the sides of the triangle. Find the length of AB by solving this equation.
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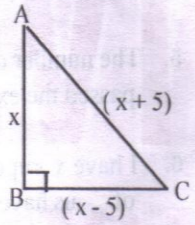
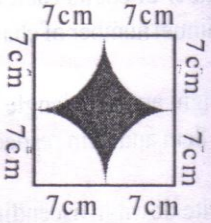


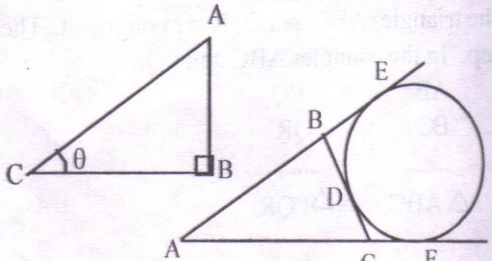
27. In the given diagram four equal circular arcs are drawn by taking the vertices of the square as centres. Find the area of the shaded portion. .....



28. Show by a rough sketch that there are four points which are at a distance of 2cm from the given line AB and 3cm from the point A.

A ——————— B

29. Using the given diagram verify that $\sin(90^0 - \theta) = \cos\theta$



30. The given diagram shows a triangle ABC and one of its excircles. If AE = 13cm, find the perimeter of the triangle ABC.