(PULKIT JAWAL)

(10th) MATHS TEST -(1)

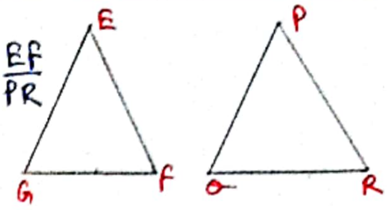
(MCQ Term-1)

40 marks
40 Questions

Passing Marks :- 25+

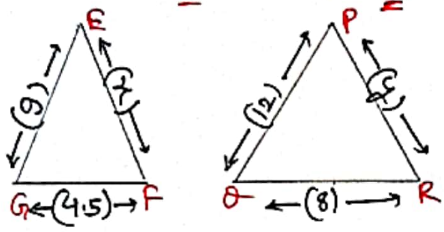
* All questions are Compulsory.
* Duration will be (1 hour 15 minutes) only.

Q1 In this figure of 2 triangles ΔEFG & ΔPQR if $\frac{EG}{QR} = \frac{GF}{PQ} = \frac{EF}{PR}$
Then which is true (a) $\Delta FEG \sim \Delta PQR$ (b) $\Delta FGE \sim \Delta PRQ$
(c) $\Delta PRQ \sim \Delta FGE$ (d) $\Delta PQR \sim \Delta FGE$



Q2. If the ratio of the corresponding sides of 2 similar triangles ΔABC & ΔPQR are in the ratio of 2:3 then their corresponding Medians are in ratio of
(a) 10:15 (b) 15:10 (c) 2:2 (d) None of these

Q3



Find those values of x & y which makes ΔGEF & ΔPQR are similar in nature.
(a) $x=y=5$ (b) $x=6, y=5$ (c) $x=y=6$ (d) None

Q4. In a ΔABC, XY is a line parallel to the base BC of ΔABC. cutting AB at X & AC at Y. If $\left(\frac{1}{4}AB = BX\right)$ & $(CY = 2cm)$. then $YA = ??$ (a) 2 (b) 4 (c) 6 (d) 8

Q5 In a ΔABC, AG is the median through vertex A. given that $\angle B = 90°$, AB = 3cm and AC = 5cm. Then length of median AG is (a) $\sqrt{5}$ (b) $\sqrt{13}$ (c) 169 (d) None

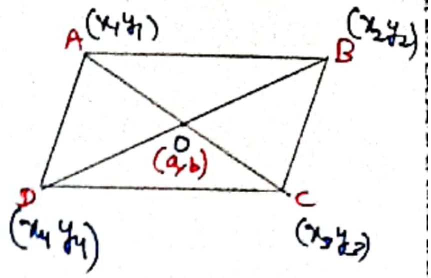
Q6 If $\Delta ABC \sim \Delta PQR$ and ratio of their corresponding sides is a:b ~~then~~ and ratio of their corresponding areas is 289:256. Then which relation is true.
(a) $32a = 34b$ (b) $34a = 32b$ (c) $17a = 16b$ (d) None of these

Q7 If $P(x_1, y_1)$ & $Q(x_2, y_2)$ then distance formula $PQ = ??$
(a) $\sqrt{(\text{Difference of abscissas})^2 + (\text{Difference of ordinates})^2}$
(b) $\sqrt{(\text{Diff. of abscissas})^2 - (\text{Diff. of ordinates})}$
(c) $\sqrt{(\text{Abscissa} - \text{ordinate})^2 - (\text{Abscissa} + \text{ordinate})^2}$
(d) None of these

Q8. The equation of Perpendicular bisector of the line segment joining the points A(4,5) & B(-2,3) is → (a) $2x - y + 7 = 0$ (b) $7 = 2y + 3x$ (c) $3x = y + 7$
(d) $y = 7 - 3x$

Q9. In this parallelogram ABCD., AC & BD are 2 diagonals which intersect at 'O' (a,b). Then coordinates of O(a,b) is given by (a) $\left(\frac{x_1+x_3}{2}, \frac{y_1+y_3}{2}\right)$ (b) $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

(c) $\left(\frac{x_4+x_2}{2}, \frac{y_4+y_2}{2}\right)$ (d) Either (a) OR (c)



Q10. Given vertices of the Quadrilateral PQRS, P(1,2), Q(1,0), R(4,0) & S(4,2). This quadrilateral can be (a) Square (b) parallelogram (c) Trapezium (d) None

Q11. Which statement is absolutely correct statement.
(a) The point of intersection of medians is called orthocentre.
(b) The point of intersection of altitudes is called Median.
(c) If three points are collinear the area of Δ formed by these points must not be equals to zero.
(d) Area of Rhombus is sometimes is also equals to (Base) X (Height)

Q12. Given PQ is the diameter of the circle with centre O. find the coordinates of P if Q(−7,3), O(−1,6) (a) (9,5) (b) (−5,−9) (c) (−9,−5) (d) None

Q13. Product of two numbers is 2160 & their HCF is (12). Then possible pairs are →
(a) 3 (b) 4 (c) 1 (d) 2

Q14. The HCF of 0.5, 0.05, 0.005 is → (a) 0.05 (b) 0.005 (c) 0.5 (d) None

Q15. The least number that is divisible by all the numbers from 10 to 15 (Both inclusive) is → (a) 60060 (b) 60000 (c) 5460 (d) 54600

Q16. The difference between the LCM(5, 15, 20) & HCF (5, 15, 20) is →
(a) 60 (b) 50 (c) 500 (d) None of these

Q17. The smallest number by which $\sqrt{27}$ can be multiplied so as to get a rational number. (a) 27 (b) $\sqrt{3}$ (c) 9 (d) None

Q18. The LCM of two prime numbers are always → (a) Difference of the no's
(b) Addition of the no's (c) Division of the no's (d) Product of the no's.

Q19. The smallest no. by which $\left(\frac{1}{26}\right)$ must be multiplied so that its decimal expansion terminates after 2 places of decimals.
(a) $\frac{26}{100}$ (b) $\frac{26}{10}$ (c) $\frac{100}{26}$ (d) $\frac{26}{1000}$

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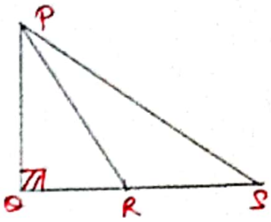
Q20. The value of $\left(-\frac{1}{\sin\alpha}\right)+\left[\sqrt{1-\sin^2\alpha}\cdot\sqrt{1+\cot^2\alpha}\,\sqrt{1+\tan^2\alpha}\right]=??$ (a) 0 (b) −1 (c) $\frac{1}{2}$

Q21. The value of $[\sin^2\theta]^{1.5}$ at $\theta=45°$ is (a) $2^{3/2}$ (b) $\frac{1}{2^{3/2}}$ (c) $2^{-3/2}$ (d) 0

Q22. If $\sin\theta=\frac{p^2-q^2}{p^2+q^2}$ then value of $\cot\theta=??$ (a) $\frac{2pq}{p^2+q^2}$ (b) $\frac{2pq}{p^2-q^2}$ (c) $\frac{2q}{p^2-q^2}$

Q23. In this ΔPQS, PR is the median, then find $\frac{\cot(\angle QPS)}{\cot\angle QPR}=$

(a) 0.25 (b) 0.4 (c) 2 (d) 0.5



Q24. In a ΔACB, right angled at C in which AB = 29 cm, BC = 21 cm & $\angle ABC=\theta$. Then find $(\cos\theta+\sin\theta)=??$

(a) $\frac{41}{29}$ (b) $\frac{21}{29}$ (c) $\frac{20}{29}$ (d) 1 (e) None

Q25. The probability of any event E is P(E) & $\overline{E}$ is the complement event $P(\overline{E})$. then $P(E)=??$ (a) 1 (b) $1-P(\overline{E})$ (c) $P(\overline{E})-1$ (d) 0

Q26. A box contains 3 blue, 2 white & 5 red balls. If a ball is drawn at random then Probability of drawn ball is not white is →

(a) $\frac{2}{10}$ (b) $\frac{4}{10}$ (c) $\frac{4}{5}$ (d) None

Q27. 3 dices are tossed one by one. Then total no. of outcomes will be →

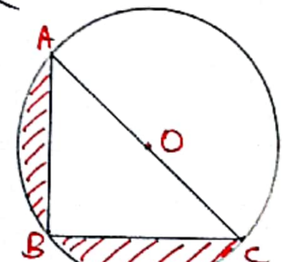
(a) 2^3 (b) 3^2 (c) 6^2 (d) None of these

Q28. Given that Perimeter & Area of circle is numerically equal then value of $\sqrt{R}$ is (a) 2 (b) $\sqrt{2}$ (c) $(2)^{0.25}$ (d) $2\pi R$

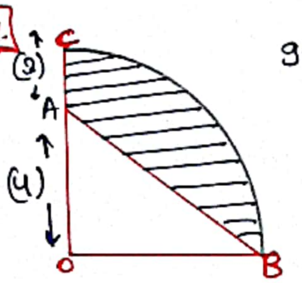
Q29. The radius of the circle if area of the sector is 8π square units and $\theta=60°$. (a) $6\sqrt{2}$ (b) $8\sqrt{2}$ (c) $5\sqrt{2}$ (d) None

Q30. In this figure of circle with centre O. AC = 5 cm., BC = 4 cm. Then area of shaded region is →

(a) $\left(\frac{25\pi}{8}-6\right)$ (b) $\left(6-\frac{25\pi}{8}\right)$ (c) $\pi\left(\frac{25}{8}-6\right)$ (d) None



Q31.



In this figure COB is the quadrant. OA = 4 cm, AC = 3 cm, Then area of shaded portion is

(a) $49\,cm^2$ (b) $98\,cm^2$ (c) $49.5\,cm^2$

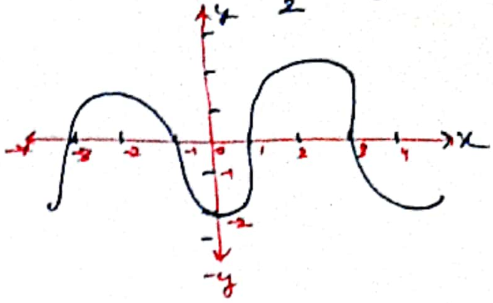
(d) $24.5\,cm^2$

Q32. The polynomial $m(m^2-5)$ has (a) 2 zeros (b) 1 zero (c) 4 zeros (d) 3 zeros.

Q33. Which one is not a zero of a Polynomial $f(x) = x^3 - 2x^2 - \frac{10}{2}x + 6$

(a) 3 (b) −2 (c) 1 (d) −1

Q34. This graph represents which equation ____



(a) $x + \frac{5}{2}$ (b) $x^2 + 2x + \frac{5}{2}$

(c) $x^3 + 2x^2 + \frac{5}{2}$ (d) $x^4 + x^3 + x^2 + x + 1$

Q35. With the given 2 zeros −1 and 3, how many polynomial equations can be made?? (a) Infinite polynomials (b) only 2 polynomials (c) only one (d) Can't determine.

Q36. If α and β are the zeros of polynomial $-4x + 1 + x^2$ then $(\alpha^{-1} + \beta^{-1} - \alpha\beta) = ??$ (a) 3 (b) 5 (c) −5 (d) −3.

Q37. The pair of equations $-3x = 4y - 18$ & $-4x = -24 + \frac{16}{3}y$ has

(a) Unique solution (b) No solution (c) Infinite no. of solution (d) None

Q38. for what value of "λ" for which the equations $-5y = \lambda - 4x$ & $x = \frac{12+3y}{2}$ will have unique solution.

(a) −20 (b) 11 (c) 20 (d) None of these

Q39. The value of x & y are $\frac{3}{(x+y)} + \frac{2}{(x-y)} = 0.5$ & $\frac{9}{(x+y)} - \frac{4}{(x-y)} = 1$

(a) $x = \frac{5}{2}, y = \frac{1}{2}$ (b) $x = \frac{1}{2}, y = \frac{5}{2}$ (c) $x = y = \frac{1}{2}$ (d) None

Q40. The cost of 5 chocolates & 3 biscuits is ₹ 35. & the cost of 4 pencils & 6 erasers. is ₹ 18. Then cost of one Biscuit is ____

(a) 10 (b) 4 (c) 5 (d) 12

By Pulkit Jawal