PUNJAB BOARD CLASS 10 MATHS (B)
PREVIOUS YEAR PAPER- 2018

Roll No .....

04/B

(Graph Paper)

Total No. of Questions: 0

Total No. of Printed Pages:

X

2038

ਸਲਾਨਾ ਪਰੀਖਿਆ ਪ੍ਰਨਾਲੀ

MATHEMATICS

Time allowed : Three hours

Maximum Marks: 80

(English Version)

Note: (i) You must write the subject-code paper-code 04/B in the box provided on the title page of your answer-book.

(ii) Make sure that the answer-book contains 26 pages (including title page) and are properly serialed as soon as you receive it.

(iii) Question s attempted after leaving blank pages in the answer-book would not be evaluated.

(iv) All questions are compulsory.

(v) In question on construction, make drawing neatly and exactly as per given measurements using geometrical instruments,

(vi) Use of calculator is not allowed.

(vii) Log tables can be had from the Centre Superintendent.

(viii) Question No. 1 to 8 are of 1 mark each, 9 to 16 are of 2 marks each and 17 to 24 are of 4 marks each. From Q. No. 25 to 28 each question is of 6 marks and all questions are with internal choice. Out of these there is internal choice in Question Number 19, 21, 25, 26, 27 and 28.

(xi) Graph paper is attached with the question paper:

Part- A

1. Find the first term a and the common difference d of A.P -5, -1, 3, 7 1

2. Sin (A+B) = sin A + sin B (Write True/ False). 1

3. Which of the following cannot be the probability of an event: 1

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(a) $\frac{2}{3}$ (b) -1.5 (c) 15% (d) 0.7

4. Every composite number can be expressed (factorized) as a product of primes. (True/False) 1

5. If the area of a triangle is 0 square units then the vertices of a triangle are_____ (Fill in the blanks) 1

6. Write the formula for finding volume of a frustum of a cone 1

7. A polynomial of degree is called a linear polynomial (Fill in the blanks) 1

8. Select the correct answer in the following: 1
Area of a sector of angle p (in degrees) of a circle with radius R is:
(a) $\frac{p}{180} \times 2\pi R$ (b) $\frac{p}{180} \times \pi R^2$

(c) $\frac{p}{306} \times 2\pi R$ (d) $\frac{p}{720} \times 2\pi R^2$

8X1 = 8

Part-B

9. Find the discriminant of the quadratic equation 2x2 - 6x + 3 = 0, and hence find the nature of its roots. 2

10. If tangents PA and PB from a point P to a circle with centre o are inclined to each other at angle of 80°, then find the value of *L*POA. 2

11. A child has a die whose six faces show the letters as given below: 2

A	B	C	D	E	A

The die is thrown once. What is the probability of getting
(i) A?
(ii) D?

12. Use Euclid's division algorithm to find the H.C.F. of 420 and 130. 2

13. Solve the pair of linear equation 2x + 3y = 11 and 2x - 4y = -24, 2

14. The wickets taken by a bowler in 10 cricket matches are as follows: 2
2 6 4 5 0 2 1 3 2 3
Find the mode of the data.

15. Divide the polynomial px= x 3x+ 5x-3 by the polynomial g(x) = x^2-2. Find the quotient and the remainder. 2

16. Two poles of heights 6m and 11m stand on a plane ground. If the distance between the feet of the poles is 12 m, find the distance between their tops. 2

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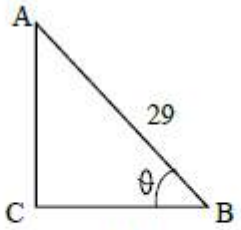
8x2 =16

Part-C

17. If A and B are (-2,-2) and (2,-4), respectively, find the coordinates of P such that AP=$\frac{3}{7}$ AB and P lies on the line segment AB. 4

18. The angle of elevation of the top of a tower from a point on the ground, which is 30 m away from the foot of the tower is 30°. Find the height of the tower. 4

19. Consider AACB, right angled at C, in which AB=29 units, BC=21 units and *L*ABC = θ (see figure.). Determine the value of sin^2 θ + cos^2θ.

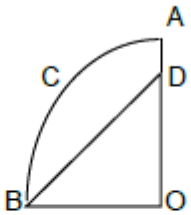


or

Prove that: 4

$\frac{1+secA}{secA} = \frac{sin^2A}{1-cosA}$, angle A is an acute angle.

20. In the given figure, OACB is a quadrant of a circle with centre O and radius 3.5 cm. 4
If OD = 2 cm, find the area of the
(i) Quadrant OACB
(ii) Shaded region.



21. Prove that opposite sides of a quadrilateral circumscribing a circle subtend supplementary angles at the centre of the circle 4

or 4

D and E are points on the sides CA and CB respectively of a triangle ABC right angled at C. Prove that : AE? + BD = ABS + DE

22. Draw a circle of radius 6 cm. From a point 10 cm away from its centre, construct the pair of tangents to the circle and measure their lengths. 4

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23. In a class test, the sum of Shefali's marks in Mathematics and English is 30. Had she got 2 marks more in Mathematics and 3 marks less in English, the product of their marks would have been 210. Find her marks in 2 subjects. 4

24. An A.P consists of 50 terms of which 3^{rd} term is 12 and the last term is 106. Find the 29^{th} term. 4

8 x4 =32

Part- D

25. In a triangle, if square of one side is equal to the sum of the squares of the other two sides, then the angle opposite the first side is a right angle. Prove it. 6

Or

The lengths of the tangents drawn from an external point to a circle are equal. Prove it. 6

26. The given distribution shows the shows the number of runs scored by some top batsman of the world in one-day international cricket matches.

Runs scored	Number of batsmen
3000-4000	4
4000-5000	18
5000 - 6000	9
6000-7000	7
7000-8000	6
8000 -9000	3
9000 -10000	1
10000-11000	1

Find the mode of the data.