Punjab Board Class 10 Maths Question Paper 2016 Set-4A

SS

1037 **04/A**

ANNUAL EXAMINATION SYSTEM

MATHEMATICS

Time allowed: 3 Hours Maximum Marks:50

1. (i) Find the value of x in the pair of linear equations and **1**

(ii) Write first four terms of AP, when first term and common difference **1**

(iii) Fill in the blanks (?): **1**

If, ΔABC ~ ΔDEF then, $\frac{(AABC)}{\text{ar(A F)}}$ —

(iv) Evaluate : **1**

(v) The length, breadth and height of the hall is 14 m, 9m, 7m respectively. Find the area of its floor. **1**

2. Given that HCF (315, 657) = 9, find LCM (315, 657). **2**

3. Find a quadratic polynomial, the sum and product of whose zeroes -3 and 2, respectively. **2**

4. Find the roots of quadratic equation $3x^2$ – , if they exist. **2**

Or

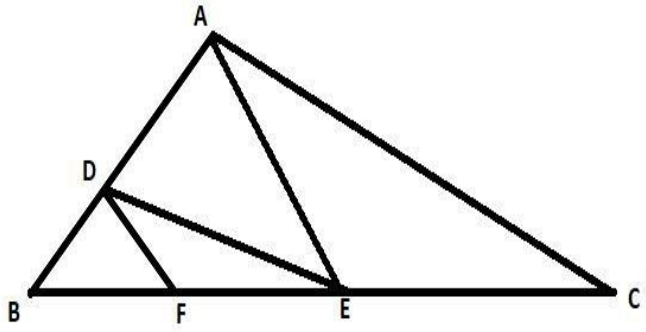
Find two consecutive odd positive integers, sum of whose squares 202. **2**

5. Find the sum of the first 15 multiplies of 8. **2**

Or

Find the 33th term of AP whose 11th term is 38 and the 16th term is 73. **2**

6. In figure, if DE || AC and DF || AE. Prove that — — **2**



Let ΔABC ~ ΔDEF and their areas be, respectively, 64 cm^2 and 121 cm^2. If EF = 13.2 cm, find BC.

7. Draw a circle of radius 3 cm. From a point 7 cm away from its centre, construct the pair of tangents to the circle and measure their lengths. **2**

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

B	A	B	C	E	D

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

9. The cost of 5 oranges and 3 apples is Rs 35 and the cost of 2 oranges and 4 apples is Rs 46. Find the cost of an orange and an apple. **3**

Or **3**

Solve the pair of linear equations and graphically.

10. If the areas of two similar triangles are equal, prove that they are congruent. **3**

11. Find the area of the triangle ABC formed by the pointe A (-5, 7), B (-4, -5) and C (4,5). **3**

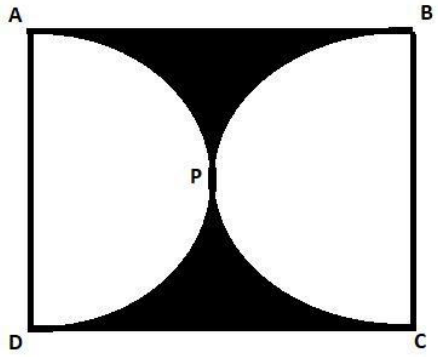
12. Given cosec A= — calculate all other trigonometric ratios. **3**

13. A kite of flying at a height of 75m above the ground. The string attached to the kite is temporarily tied to a point on the ground. The inclination of the string with the ground is 60°. Find the leangth of the string, assuming that there is no slack in the string. **3**

14. The length of the minute hand of a clock is 14 cm. Find the area swept by the minute hand in 15 minutes. **3**

Or **3**

Find the area of the shaded region in figure, if ABCD is a square of side 14 cm and APD and BPC are two semicircles.



15. The following table shows the ages of the patients admited in a hospital during a year : **3**

Age (in years)	5-15	15–25	25–35	35–45	45–55	55-65
Number of patients	6	11	21	23	14	5

Find the mode of the data given above.

Or

Consider the following distribution of daily wages of 50 worker factory. **3**

Daily wages (in rs)	100-120	120-140	140-160	160-180	180-200
Number of workers	8	6	10	14	12

Find the mean daily wages of the workers of the factory.

16. The ratio of the area of two similar triangles is equal to the square of the ratio of their corresponding sides. Prove it. **5**

Or

The lengths of tangents drawn from an external point to a circle are equal. Prove it. **5**

17. Two cubes each of volume 64 cm^3 are joined end to end. Find the surface area of the resulting cuboid. **5**

Or

A cylindrical bucket, 20 cm high and with radius of base 16 cm, is filled with sand. This bucket is emptied on the ground and a conical heap of sand is formed. If the height of the conical heap is 15 cm, find the radius and slant height of the heap. **5**