HGP

MODEL PAPER -2 – MATHEMATICS - 10th standard

HGP

Time: 1Hour **NAME :** **Marks :40**

Four alternatives are given for each of the incomplete statement or questions. Choose the correct answer.

1) The lines representing $2x+3y-9=0$ & $4x+9y-10=0$ are

A) Intersecting lines B) Perpendicular lines C) Parallel lines D) Coincident lines

2) In an A.P. 1,3, 5,..... 91, the 10th term from the last term is

A) 19 B) 31 C) 73 D) 75

3) Discriminant of $ax^2+bx+c=0$ is

A) b^2-4ac B) b^2+4ac C) b2 -4c D) b^2-ac

4) Value of $\sin 90^0 + \tan 45^0$ is

A) $\frac{1}{2}$ B) 0 C) 1 D) 2

5) Distance between the origin and a point (x,y) is

A) $\sqrt{x^2-y^2}$ B) $\sqrt{x^2+y^2}$ C) x^2+y^2 D) (0,0)

6) Angle between radius and tangent of a circle is

A) 10^0 B) 50^0 C) 90^0 D) 180^0

7) Total Surface Area of a sphere of radius 7cm is

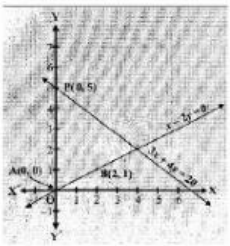
A) $216cm^2$ B) $416cm^2$ C) $516cm^2$ D) $616cm^2$

8) A toy is in the form of a cone mounted on a hemisphere of same radius. Total surface area of the toy is

A) TSA of cone B) CSA of Cone + TSA of hemispere

C) CSA of cone + CSA of hemispere D) TSA of hemisphere + TSA of cone

9) Solutions of the equations $x-2y=0$ and $3x+4y=20$ are,



A) x = 2 and y =4 B) x =4 and y = 2 C) x= 3 and y =2 D) x=1 and y=1

10) Sum of the first 25 odd numbers is

A) 25 B) 50 C)125 D) 625

LIVEWORKSHEETS

11) If $3x^2 - kx + 3 = 0$ has two equal roots, then the positive value of k is

A) 6 B) 4 C) 2 D) 1

12) Value of $\sec^2\theta - \tan^2\theta$ is

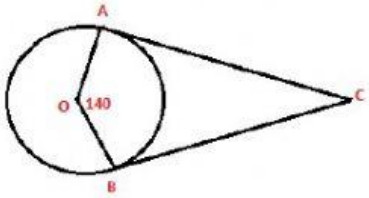
A) 0 B) 1 C) 2 D) 3

13) Distance between the points (x_1,y_1) and (x_2, y_2) is

A) $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ B) $d = \sqrt{(x_2 - x_1)^2 - (y_2 - y_1)^2}$

C) $d = \sqrt{(x_2 + x_1)^2 + (y_2 + y_1)^2}$ D) $d = \sqrt{x^2 + y^2}$

14) In the figure, AC and BC are the tangents. If $\angle AOB = 140^0$, then the value of $\angle ACB$ is



A) 140^0 B) 100^0 C) 90^0 D) 40^0

15) Curved surface area of a Cylinder is

A) $2\pi rh$ B) $2\pi r(r+h)$ C) πrl D) $\pi r^2 l$

16) If Areas of two similar triangles are in the ratio 81 : 36, then the ratio of the corresponding sides is

A) 81:36 B) 6 : 9 C) 9 : 6 D) 16 : 6

17) In the equations x + y = 9 and x -y = 5 ,values of x and y are

A) x =3 and y =2 b) x = 4 and y = 5 C) x = 7 and y = 2 d) x =2 and y =7

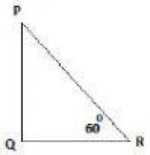
18) The roots of the quadratic equation $2x^2 - 8x + 3 = 0$ are

A) Real and distinct B) Real and equal C) No real roots D) Imaginary roots

19) Value of $\cos 48^0 - \sin 42^0$ is

A) 48 B) 42 C) 1 D) 0

20) In ΔPQR , $PQ \perp QR$, $\angle PRQ = 60^0$, $QR = 5$, value of PR is



A) 5 B) 10 C) 15 D)20

21) Midpoint of the line joining the points (-6,2) and (-8,4) is

A) (5,2) B) (-7, 3) C) (2,5) D) (3, -7)

LIVEWORKSHEETS

22) Relationship between Mean, Median and Mode is

A) Mode = 3Median -2Mean B) Mode = 2Median – 3Mean

C) Mean = Median + Mode D) Median = 3Median + 2Mean

23) Which one of the following is a Pythagorean triplet?

A) 3,4,6 B) 5,12,13 C) 12,14,16 D) 8, 15,16

24) The total surface area of a cone whose radius = 7cm and slant height = 13cm is

A) $286cm^2$ B) $400cm^2$ C) $420cm^2$ D) $440cm^2$

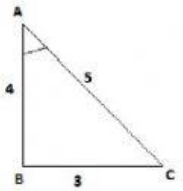
25) Product of two consecutive odd numbers is 63. Equation form of this is,

A) $x^2 + 2x + 63 = 0$ B) $x^2 -2x -63 =0$ C) $x^2 + 2x -63 =0$ D) $x^2 -63 = 0$

26) Roots of $x^2 – 4x = 0$ are

A) $4\ and - 4$ B) 4 and 0 C) 2 and 0 D) 0 and -4

27) In the figure cosA is ,



A) $\frac{3}{4}$ B) $\frac{4}{5}$ C) $\frac{3}{5}$ D) $\frac{5}{4}$

28) If $\tan\theta = \frac{5}{12}$, then $\cot\theta$ is

A) $\frac{5}{12}$ B) $\frac{12}{5}$ C) $\frac{12}{13}$ D) 12

29) The distance of the co-ordinate P(5,7) from the y-axis is

A) 5 B) 7 C) 1 D) 12

30) If the total score of the students in a test is 350, Mean = 10, the number of students in that class is

A) 35 B) 3.5 C) 175 D) 700

31) Which one of the following is a quadratic equation?

A) $x^3 -2x^2 + 3= 0$ B) $x^2 -2x + 5 =x^2$ C) $x(x +2) =0$ D) $x + 2 = 0$

32) If the volume of a cone is $50cm^3$, then the volume of the cylinder of same base and height is

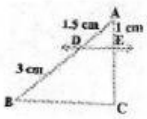
A) $300cm^3$ B) $200cm^3$ C) $150cm^3$ D) $50cm^3$

33) Which one of the following is an A.P.?

A) 3,5,8,11… B) 4,7,10,13,… C) 4,8,16,32,… D) -8,-5,-3,-1,…..

LIVEWORKSHEETS

34) In the given figure value of EC is,



A) 4cm B) 3cm C) 2cm D) 1cm

35) The length of the tangents drawn from an external point to a circle is

A) perpendicular B) parallel C) equal D) not equal

36) In a right triangle ABC, if $\angle B = 90^0$, AB = 8cm, AC = 17cm, then the length of BC is

A) 8cm B) 15cm C) 17cm D) 25cm

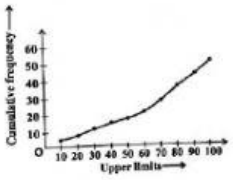
37) Angle formed by the line of sight with the horizontal when the point is below the horizontal level is

A) angle of elevation B) angle of depression C) equal angle D) Right angle

38) Formula to find the Mode is

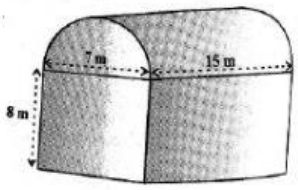
A) $\frac{\sum f_i x_i}{\sum f_i}$ B) $l + \left(\frac{\frac{n}{2} - cf}{f}\right) \times h$ C) $l + \left(\frac{f_1 - f_0}{2f_1 - f_0 - f_2}\right) \times h$ D) None of these

39) The given graph represents



A) Histogram B) Pie chart C) Less than Ogive D) More than Ogive

40) Volume of the solid given below is,



A) volume of cube + volume of cylinder B) volume of cuboid + volume of cylinder

C) volume of cube + volume of hemisphere D) volume of cuboid + $\frac{1}{2}$ volume of cylinder

PRAKASH H G, KARNATAKA PUBLIC SCHOOL, N.R.PURA, CHIKMAGALUR DIST, Ph: 7259601767

OMR ANSWER SHEET

LIVEWORKSHEETS

OMR ANSWER SHEET

QUESTION PAPER VERSION (A) (B) (C) (D)

ABSENT SHADE AB ◯

Qn.No	Answer			
1	A	B	C	D
2	A	B	C	D
3	A	B	C	D
4	A	B	C	D
5	A	B	C	D
6	A	B	C	D
7	A	B	C	D
8	A	B	C	D
9	A	B	C	D
10	A	B	C	D

Qn.No	Answer			
11	A	B	C	D
12	A	B	C	D
13	A	B	C	D
14	A	B	C	D
15	A	B	C	D
16	A	B	C	D
17	A	B	C	D
18	A	B	C	D
19	A	B	C	D
20	A	B	C	D

Qn.No	Answer			
21	A	B	C	D
22	A	B	C	D
23	A	B	C	D
24	A	B	C	D
25	A	B	C	D
26	A	B	C	D
27	A	B	C	D
28	A	B	C	D
29	A	B	C	D
30	A	B	C	D

Qn.No	Answer			
31	A	B	C	D
32	A	B	C	D
33	A	B	C	D
34	A	B	C	D
35	A	B	C	D
36	A	B	C	D
37	A	B	C	D
38	A	B	C	D
39	A	B	C	D
40	A	B	C	D

Student Signature

Room invigilator Signature

PRAKASH HG, KPS, N.R.PURA, CHIKMAGALUR DISTRICT, PH: 7259601767

LIVEWORKSHEETS