DAV PS, Bhatgaon

Class – X Mathematics 1 Mark Question.

1. If p & q are two odd prime numbers such that p >q. then $p^2 - q^2$ is..... a) an even number

b)an odd number

- d)a prime number c) an odd prime number
- 2. Find median of the data using an empirical relation when it is given that mode=12.4 & mean=10.5.
- 3. An equation of the circle with centre at(0,0) and radius r is.....
- 4. The L.C.M of x & 18 is 36, and the H.C.F of x & 18 is 2, then find the number of x.....
- 5. What is abscissa of the point of intersection of the "less than type" and of the "more than type" cumulative frequency curve of a grouped data?
- 6. The mean and median of data a,b and c are 50 and 35. Where a <b <c. if c-a=55, then find (b-a)
- 7. If the radii is diminished by 10%, then its area of the circle is diminished by%
- 8. Distance of point A(x,y) from origin is
- 9. The distance between two parallel tangents drawn is equal to theof the circle.
- 10. A and b are two positive integers such that the least prime factor of a is 3 and the least prime factor of b is 5. Then calculate the least prime factor of (a+b)?
- 11. Degree of reminder is alwaysthan degree of divisor.
- 12. If a regular hexagon is inscribed in a circle then its perimeter is.....
- 13. Numbers having non-terminating, non-repeating decimal expansion are known as.....
- 14. If the area of three adjacent faces of cuboid are x,y,z then find the volume of cuboid?
- 15. The linear factor of quadratric equation $x^2 + kx + 1 = 0$ are.....

d) 2≤k≤-2 a) k≥2 b) k≤2 c) k≥-2

- 16. The ratio of sides of the triangle to be constructed with the corresponding sides of the given b)length factor triangle is called..... a)Scale factor c)side factor d)k-factor.
- 17. The value of x, for which the polynomial $(x^2 1)$ and $(x^2 2x + 1)$ vanish simultenously is.....
- 18. If $x = p \sec \theta$ and $y = q \tan \theta$, then.....

a) $x^2 - y^2 = p^2 q^2$ b) $x^2 q^2 - y^2 p^2 = pq$ c) $x^2 q^2 - y^2 p^2 = \frac{1}{p^2 q^2}$ d) $x^2 q^2 - y^2 p^2 = p^2 q^2$

19. The value of the polynomial $x^8 - x^5 + x^2 - x + 1$ is.....

b) negative for all real no c = 0 d) depends on the value of x. a) Positive for all real no.

- 20. The median of a set of 9 distinct observation is 20.5. if each of the largest 4 observation of the set is increased by 2, then the median of the new set will be.....
- 21. Each root of $x^2 bx + c = 0$ is decreased by 2. The resulting equation is $x^2 2x + 1 = 0$, then.....
 - c)b=2, c=-1 d)b=-4, c=3 a) b=6,c=9 b) b=3,c=5
- 22. Triangle in which we study trigonometric ratios is called.....
- 23. The ratio of the length of a rod and its shadow is 1: $\sqrt{3}$, then the angle of elevation of sun is.....
- 24. 24. A three digit number is to be formed usingh 3,4,7,8 and 2 without repetation. The probability that it is odd no is...
 - $b)\frac{4}{5}$ $c)\frac{1}{5}$ a)³ d)².
- 25. In a frequency distribution , the mid value of class is 10 . and the width of class is 6. The lower limit of the class is.....
- 26. What is the perimeter of the sector with radius 10.5 cm and sector angle 60°?

27. If the perimeter of one face of a cube is 20cm, then its surface area iss
28. Arrange the following in assending order $\frac{1}{18}, \frac{1}{45}, \frac{1}{60}$ and $\frac{1}{36}$.
$a)_{\frac{17}{18}} < \frac{59}{60} < \frac{43}{45} < \frac{36}{31} \qquad b)_{\frac{31}{36}} < \frac{17}{18} < \frac{43}{45} < \frac{59}{60} \qquad c)_{\frac{43}{45}} < \frac{59}{60} < \frac{31}{36} < \frac{17}{18} \qquad d)_{\frac{59}{60}} < \frac{43}{45} < \frac{31}{36} < \frac{17}{18}$
29. If the perimeter of a semi-circle protector is 36cm, then its diameter is.
a) 7cm b)14cm c)12cm d)16cm
30. ABC is an isosceles triangle with AC=BC, if $AC^2 = 2BC^2$, then triangle ABC is right angle at
a) $\angle A$ b) $\angle B$ c) $\angle C$ D) None of these.
31. If $\sqrt{3} \tan \theta = 1$ then the value of $\sin^2 \theta - \cos^2 \theta$ is
a) $\frac{1}{3}$ b) $-\frac{1}{3}$ c) $-\frac{1}{2}$ d) $-\frac{3}{2}$
32. The area of incircle of an equilateral triangle is $154 cm^2$. The perimeter of the triangle is
a)71.5 cm b)71.7 cm c)72.3 cm d)72.6 cm.
33. The number of zeroes in a cubic polynomial may be at most.
a)1 b)2 c)3 d)4
34. The point on X-axis equidistant from points A(2,4) and B(-4,8) is. $a_{1}(5,0)$
a)(-5,0) b) (5,0) c) (0,0) d) None of these. 35 If the product of Zeros of the polynomial $f(x) = ax^3 - 6x^2 + 11x - 6$ is 4 then a is equal to
f(x) = ax = bx + 11x = b is 4, then a is equal to
$a)_{\overline{2}}^{-}$ $b)_{\overline{3}}^{-}$ $b)_{\overline{3}}^{-}$ $a)_{\overline{3}}^{-}$
36. The minute hand of a clock is 10cm long. The area swept by the minute hand between 8:00am to 8:25am isa) $120.95cm^2$ b) $130.95cm^2$ c) $140.95cm^2$ d) $150.95cm^2$.
37. Distance between two parallel tangents of a circle of radius 3 cm is
a) 4cm b)5cm c)6 cm d)8 cm
38. Value of tan 5 tan 10 tan 45 tan 80 tan 85 is
a) 0 b)1 c)2 d)3
39. The smallest odd composite number is
a)5 b)3 c)7 d)9
40. Which term of the AP 20,17,14,is first negative term?
a) 8^{m} b) 6^{m} c) 9^{m} d) 7^{m} 41 Find the distance between the two points (0.0) and (2000 A s sin A)
41. Find the distance between the two points (0,0) and (acos 0, a sin 0).
42. Two dice thrown together. Find the probability that sum of the two numbers will be multiple of 4 43. A number when divided by 53 gives 34 as quotient and 21 as a remainder. Find the number
44 All equilateral triangle are
45. The class in which mode lies is called the
46. The coefficient of x and the constant term in a linear poly nomial are 5 and -3, respectively, find its zero
47. Find the area of the area of the largest triangle that can be inscribed in a semi-circle of radius r
48. The common point of a tangent to a circle and the circle is called
49. The decimal representation of $\frac{11}{2^8 \times 5}$ will
a) terminate after 1 decimal place
b) terminate after 2 decimal places
c) terminate after 3 decimal place
d) not terminate.

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MCQ/FILL IN THE BLANKS/SHORT ANSWER CLASS X

Q.1.The product of HCF and LCM of 18 and 16 is

(a)240 (b) 144 (c) 288 (d) 230

Q.2. Find the value of K for which the pair of linear equation 4x+6y-1=0 and 2x-ky=7 represent parallel

Parallel lines:

(a)2 (b)-3 (c)4 (d)-2

Q3.If the difference of the roots of the equation $x^2-6x+c=0$ be 1, then

(a) b^2 -4c+1=0 (b) b^2 +4c=0 (c) b^2 -4c-1=0 (d) b^2 -4c=0

Q.4.10th term of the sequence $\sqrt{3}, \sqrt{12}, \sqrt{27}$ is.....

(a) $\sqrt{243}$ (b) $\sqrt{300}$ (c) $\sqrt{363}$ (d) $\sqrt{432}$

Q.5. Sides of two similar triangles are in the ratio 4:9. Areas of those triangles are in the ratio

(a)2:3 (b)4:9 (c)81:16 (d)16:81

Q.6.Ifsec A = 2 where A is an acute angle, then find the value of tan A.

(a) $\frac{1}{\sqrt{3}}$ (b) 1 (c) $\sqrt{3}$ (d)0

Q.7.If tangent PA and PB from a point P to a circle with centre O are inclined to each other at angle of

80°, then < POA is equal to

$(2) = 0^{0}$	(h)60°	(c)70°	(4)80°
(a)50	(0)00	(0)/0	(u)00

Q.8.All_____traingle are similar.

(a) Isosceles (b) Equilateral (c) Scalene (d) Equal

Q.9. Area of a sector of angle p (in degrees) of a circle with radius R is

 $\frac{p}{180} \times 2\pi R$ (b) $\frac{p}{180} \times \pi R^2$ (c) $\frac{p}{360} \times 2\pi R$ (d) $\frac{p}{720} \times 2\pi R^2$

Q.10. The class mark of the class 10-25 is -

(a)16.5 (b) 18.5 (c) 19.5 (d) 17.5

Q11. The probability of throwing a number greater than 2 with a fair dice is

(a) $\frac{2}{3}$ (b) $\frac{5}{6}$ (c) $\frac{1}{3}$ (d) $\frac{2}{5}$

Q12.The pair of equation 2x-5y+4=0 and 2x+y-8=0 has

(a)a unique solution (b)exactly two solution (c)infinitely many solution (d)no solution

Q13.If a pair of linear equation is consistent, then the lines will be_____.

Q.14 If the length of shadow of a tower is increasing than angle of elevation of the sun is_____.

Q15.The common point of a tangent to a circle and the circle is called______.

Q16.Cumulative frequency curve is also called______.

Q17.Are the points (0,5), (0,-9) and (3,6) collinear. ? Justify your answer.

Q18.Examine $\frac{77}{210}$ is a terminating decimal or not?

- Q.19. Determine the values of m and n so that the prime factorization of 1000 is expressible as $2^m \times 5^n$.
- Q.20. Find the zeroes of the polynomial t^2 15.
- Q21.Find a quadratic polynomial if the sum and product of zeros are -3 and 2 respectively.

Q22. Find the number of zeroes of the polynomial depicted in the figure.



Q.23.The pair of equation x+3y=6 and 2x-3y=12 is consistent or in consistent?

Q.24. Find the nature of roots of the equation $2x^2-6x+3=0$

Q.25. Find the discriminant of the equation x^2 -3x-10=0

Q.26.Find number of terms in A.P 10, 7, 4 ------

Q27.Find the sum of the first Five prime numbers.

Q28. Find the common difference of the A.P 3, $3+\sqrt{2}$, $3+2\sqrt{2}$.

Q29. Find the distance between the points (0,0) and (36,15)

Q.30. At the same time of the day the length of the shadow of a tower is equal to its height. Find the sun's altitude at that time.

С

Q.31. If 15cot A= 8, find sin A and sec A. 8

Q32. In the given figure, P divides AB internally. Find the ratio



В

Q33. A chord of a circle of radius 14 cm subtends a right angle at the centre. What is the area of the minor sector? $(\pi = \frac{22}{7})$ Q34.2 cubes each of volume 64 cm² are joined end to end. Find the surface area of the resulting cuboid. Q35.A metallic sphere of radius 4.2 cm is melted and recast into the shape of a cylinder of radius 6 cm. Find the height of cylinder.

Q36. Find the ratio of volume of a cone and cylinder of equal diameter and of equal height.

Q37.The radii of two circles are 19cm and 9 cm respectively .Find the radius of the circle which has circumference equal to the sum of the circumferences of the two circles.

Q38.If the mode of a distribution is 8 and its mean is also 8, then find the median.

Q39.A card is drawn from a well shuffled deck of 52 cards. Find the probability of getting the Jack of Hearts.

Q40 If P(E)=0.05, what is the probability of 'not E'.?

DAV PUBLIC SCHOOL, GEVRA PROJECT Question Bank 2019-20

MATHS

- 1. Find the [HCF x LCM] for the numbers 100 and 190.
- 2. If $\sec^2 \theta (1 + \sin \theta) (1 \sin \theta) = k$, then find the value of k
- 3. Find the discriminant of the quadratic equation $3\sqrt{3} x^2 + 10x + \sqrt{3} = 0$.
- 4. If $\frac{4}{5}$, a, 2 are three consecutive terms of an AP, then find the value of a.
- 5. △ABC with vertices A (-2, 0), B(2, 0) and C (0, 2) is similar to ADEF with vertices D (- 4, 0), E (4, 0) and F (0, 4). State true or false and justify your answer.
- 6. In Figure (1), $\triangle ABD$ is a right triangle, right angled at A and AC 1 BD. Prove that $AB^2 = BC.BD$.



Class : X

- 7. Which term of the AP 3, 15, 27, 39,... will be 120 more than its 21st term?
- 8. If the points A(4.3) and B(x, 5) are on the circle with the centre 0(2,3), find the value of x
- 9. Find the sum of 0.68 + 0.73.
- 10. If x a, y b is the solution of the pair of equations x y = 2 and x + y = 4, then find the value of a and b.
- 11. Two dice are thrown simultaneously. What is the probability that come up on either of them b) 5 will come up on at least one
- 12...For what value of k will k + 9.2k -1 and 2k + 7 are the consecutive terms of an A.P.?

$$\frac{cosec^2\theta - sec^2\theta}{sacc^2\theta + sec^2\theta}$$

- $\sqrt{5}$. What is the value of $\overline{cosec^2\theta + sec^2\theta}$? 13. Given that tan
- 14. Find a point on the y-axis which is equidistant from the points A (6,5) and B (- 4, 3).
- 15. One card is drawn from a well shuffled deck of 52 playing cards. Find the probability of getting a) a non-face card, b) a black king or a red gueen.

16. For what value of k the quadratic equation
$$x^2 - kx + 4 = 0$$
 has equal roots?

- 17. If tan A = $\frac{2}{4}$ and A + B = 90°, then what is the value of cot B?
- 18. Write 98 as product of its prime factors.

 $\theta =$

- 19. Show that x = -2 is a solution of $3x^2 + 13x + 14 = 0$.
- 20. Find distance between the points (0,5) and (- 5, 0).

$$BC = 1$$

- 21. If it is given that $\triangle ABC \sim \triangle PQR$ with $\frac{BC}{QR} = \frac{1}{3}$ then find $\frac{ar(\triangle PQR)}{ar(\triangle ABC)}$ 22. State the Euclosure of T
- 22. State the Fundamental Theorem of Arithmetic.

a) 5 will not

- 23. What is the nature of roots of the quadratic equation $4 \times 2 12x 9 = 0$?
- 24. Express sin 67° + cos 75° in terms of trigonometric ratios of angles between 0° and 45°.
- 25. A and B are respectively the points on the sides PQ and PR of a APQR such that PQ = 12.5 cm, PA = 5 cm, BR = 6 cm and PB = 4 cm. Is $AB \parallel QR$? Give reason.
- 26. If the points A (1, 2), B (0, 0) and C (a, b) are collinear, then what is the relation between a and b? 27. Find the common difference of an AP in which $a_{18} - a_{14} = 32$.
- 28. If the sum of the areas of two circles with radii R_1 and R_2 is equal to the area of a circle of radius R, then
 - (b) $R_1^2 + R_2^2 = R^2$ (d) $R_1^2 + R_2^2 < R^2$ (a) $R_1 + R_2 = R$

1

- (c) $R_1 + R_2 < R$
- 29. If the sum of the circumferences of two circles with radii R1 and R2 is equal to the circumference of a circle of radius R, then
 - (a) $R_1 + R_2 = R$
 - (b) $R_1 + R_2 > R$
 - (c) $R_1 + R_2 < R$

(d) Nothing definite can be said about the relation among R_1R_2 and R

30. Area of the largest triangle that can be inscribed in a semi-circle of radius r units is

	(a) r ² sq units	s (b) $\frac{1}{2}$ r ² s	q units (c)	2r ² sq units	(d) √2 r ² s	q units	
,	31. The area of 1	the circle that can	be inscribed in a	a square of side	6 cm is	(1) 0 2	
	(a) 36π cm ²	(b) 18t		(c) 12π cm ²		(d) 9π cm ²	
	32. The sh	adow of a 5m lo	ng stick is 2r	n long. At the	same time	the length of the	
sha	dow of a 12.5m	high tree (in m) i	S				
	a.3.0	1	b.3.5	c. 4.5		d.5.0	
	33. In ∆ABC a. 45 ⁰	,AB= 6√3 cm. ,	AC=12cm & b.60 ⁰	BC =6 cm, c. 9	then ∠B is 00 ⁰	d. 120 ⁰	
	34. Correspo	nding sides of two	similar triangles	are in the ratio	4:9. Areas c	of these triangles ar	e in
the	ratio						
	a. 2:3	b.4	4:9	c. 9:4		d. 16:81	
	35. The heig	ht of an equilatera	al triangle having	each side 12 c	m is		
	a.6√2 cm	b.6√3 cm		c.3√6 cm		d.6√6 cm	
	36.The dista	nce of the point (-	3,4) from x-axis	is			
	a. 3	b.	3	c. 4		d. 5	
	37.lf A(-6,7) a	and B(-1,-5) are tv	vo given points th	nen the distance	e 2AB is		
	a. 13	b.26	0 1	c. 169		d.238	
	38.lf P(-1,1) is	s the midpoint of t	he line segment	joining A(-3,b)	and B(1,b+4)) then b=?	
	a.1	b1	U	c. 2		d.0	
	39. If the poin	ts A(1,2), O(0,0)	and C(a,b) are o	collinear then			
	a. a=b	b. a	=2b	c. 2a=b		d. a+b=0	
	40. sec30 ⁰ /co	sec60 ⁰ =?					
	a. 2/√3	b.	√3/2	c. √3		d. 1	
	41. sec ² 10 ⁰ - 0	$\cot^2 80^0 = ?$					
	a. 1	b.0		c.3/2		d. ½	
	42. sec ² 60 ⁰ -	1= ?					
	a.2	b. 3		c. 4		d. 0	
	43. If tan $\Theta = \sqrt{3}$	3 then sec⊖=?					
	a. 2/√3	b.√3/	2	c.1/2		d. 2	
	44 If the heig	ht of a vertical nol	– e is√3 times the	length of its sha	adow on the	around then the an	ale
of	elevation of the	sun at that time i		longin of its one		ground then the dri	gic
01	20 ⁰ a 3	h 45	0	$c 60^{0}$		d 75 ⁰	
	15 If a nota 1	2 m high casts a	, shadow 4√2 m k	on the arou	nd then the c	sun"s eleviation is	
	-+0. II a pole I	ב ווו ווויצוו נמטנט מ h אנ	311auuw 4 v3 111 10 20	ກາງ ບາງ ເກຍ giou ລາວ∩ ⁰			
	a. uu	0.40	,	6.30		u.30	

46. the shadow of a 5m long stick is 2m long. At the same time, the length of the shadow of a 12.5m high tree is a.3m b.3.5m c.4.5m d.5m 47. From a point on the ground ,30m away from the foot of a tower, the angle of elevation of the top 30°. The height of the tower is is b.10√3 d.30√3 m a. 30m c. 10m 48. The number of tangents that can be drawn from an external point to a circle is a. 1 b. 2 c. 3 d. 4 49. Which of the following pairs of lines in a circle cannot be parallel a. two chords b. a chord and a tangent c. two tangents d. two diameters 50. If a chord AB subtends an angle of 60° at the centre of a circle, then the angle between the tangents to the circle drawn from A and B is c. 90⁰ a. 30° b. 60° d. 120⁰ 51. If two tangents inclined at an angle of 60⁰ are drawn to a circle of radius 3 cm then the length of each tangent is a. 3 cm b. $3\sqrt{3}/2$ cm c. 3√3 cm d. 6 cm

D.A.V. PUBLIC SCHOOL, ACC JAMUL SUBJECT-MATHS CLASS (X) MULTIPLE CHOICE QUESTIONS

1. The HCF and LCM of two numbers are 33 and 264 respectively. When the first number is completely divided by 2 the quotient is 33. The other number is:

(a) 66 (b) 130 (c) 132 (d) 196

2. 4 Bells toll together at 9.00 am. They toll after 7, 8, 11 and 12 seconds respectively. How many times will they toll together again in the next 3 hours?

(a) 3 (b) 4 (c) 5 (d) 6

3.
$$\pi - \frac{22}{7}$$

(a) a rational number (b) an irrational number (c) a prime number (d) an even number <u>441</u>

4. The decimal expansion of number $2^2 \times 5^3 \times 7$ has:

(a) a terminating decimal
 (b) non-terminating but
 (c) non-terminating non repeating
 (d) terminating after two places of decimal

5. The quadratic polynomial whose sum of zeroes is 3 and product of zeroes is -2 is :

(a)
$$x^2 + 3x - 2$$
 (b) $x^2 - 2x + 3$ (c) $x^2 - 3x + 2$ (d) $x^2 - 3x - 2$

6. If p(x) = ax + b, then zero of p(x)

(a) a (b) b (c) $\frac{-a}{b}$ (d) $\frac{-b}{a}$

7. Graph of a quadratic polynomial is a

(a) Straight line	(b) Circle	(c) Parabola	(d) Ellipse	
8 A quadratic polynom (b) $x^2 - 36$ (c)	mial whose one zero is $x^2 - 6$	s 6 and sum of the zeroes is ((d) $x^2 - 3$), is (a)	$x^2 - 6x + 2$
9. If $(x + 1)$ is a factor	of $2x^3 + ax^2 + 2bx + 1$, then find the values of a an	d b given that $2a - 3b = 4$	
(a) $a = -1, b = -2$	(b) $a = 2, b = 5$	(c) $a = 5, b = 2$	(d) $a = 2, b = 0$	
10. The number of zer(b) 2	roes that polynomial f (c) 0	$(x) = (x - 2)^2 + 4$ can have is (d) 3	:	(a) 1
11. What will be the s(b) x=2,y=-1	colution of these equat (c) x=-	ions ax +by=a-b, bx -ay=a+ -2, y=-2	-b (a) x=1, y=2 (d) x=1, y=-1	
12. A fraction becomes denominator. Find the	s. When subtracted fro fraction.	om the numerator and it become	mes. When 8 is added to	its
(a) 4/12 (b)	3/13	(c) 5/12	(d) 11/7	
13. If x=a, y=b is the	solution of the pair of	equation x-y=2 and x+y=4 t	then what will be value of a a	nd b
(a) 2,1	(b) 3,1	(c) 4,6	(d) 1,2	
14 If the sum of <i>n</i> term	ms of an A.P. is then i	ts <i>n</i> th term is		
(a) 4 <i>n</i> −3	(b) 3 <i>n</i> −4	(c) $4n + 3$	(d) 3 <i>n</i>	+ 4
15. Sum of n terms of	f the series $\sqrt{2} + \sqrt{8} + \sqrt{8}$	√18 + √32 is		
(a) 1		(b) $\frac{n(n+1)}{\sqrt{2}}$		
(c) $\frac{n(n+1)}{2}$		(d) $2n(n+1)$		
16. Sum of first n na	tural number is			
(a) $\frac{n(n-1)}{2}$		(b) $\frac{n(n+1)}{2}$		
(c) $\frac{n(n+1)(2n)}{6}$	+ 1)	(d) $\left[\frac{n(n+1)}{2}\right]^2$		
17. In an A.P., a_{m+n} +	a_{m-n} is equal to			
(a) 0	(b) 1	(c) $2a_m$	(d) a_m	
18 Every quadratic	polynomial can have	at most		
(a) three zeros	(b) one zero	(c) two zeros	(d) none of these	
19 If $x^2 + 5px + 16$ h	ave no real roots, then -9	_ R		
(a) $p > \frac{0}{5}$	(b) $\frac{6}{5}$	(c) $p < \frac{5}{5}$	(d) none of these	

20 For $ax^2 + bx + c = 0$, which of the following statement is wrong? (a) If $b^2 - 4ac$ is a perfect square, the roots are rational. (b) If $b^2 = 4ac$, the roots are real and equal. (c) If $b^2 - 4ac$ is negative, no real roots exist. (d) If $b^2 = 4ac$, the roots are real and unequal. The roots of the equation $9x^2 - bx + 81 = 0$ will be equal, if the value of b is 21 (a) \pm 9 (b) ± 18 $(c) \pm 27$ $(d) \pm 54$ Which of the following is not a quadratic equation? 22 (b) $x + \frac{1}{x} = 1$ (a) $3x^2 - 5x + 9$ (c) $x^2 - 9x = 0$ (d) $x^3 - 2x - \sqrt{5} = 0$ 22. If the equation $x^2 - kx + 1$, have no real roots, then (b) -3 < k < 3(a) -2 < k < 2(c) k > 2(d) k < -223. Roots of quadratic equation $x^2 - 3x = 0$, will be (b) 0, -3(a) 3 (d) none of these (c) 0, 324. Value of D when root of $ax^2 + bx + c = 0$ are real and unequal will be (a) D > 0(b) D > 0(c) D < 0(d) D = 025. Find the distance of the point (-6, 8) from the origin. (c) 10 (d) 9 (a) 8 (b) 11 26. Find the ratio in which the line joining the points (6, 4) and (1, -7) is divided by x-axis. (b) 2 : 7 (a) 1 : 3 (c) 4 : 7 (d) 6 : 7 Find the value of k if the points A(2, 3), B(4, k) and C(6, -3) are collinear. 27. (b) 3 (c) 0 (a) 2 (d) 1 28. 1. In the given figure, PA and PB are tangents from P to a circle with centre O. If $\angle AOB = 130^{\circ}$, then find ∠APB. (a) 40° (b) 55° (c) 50° (d) 60° 2. In the given figure, PT is a tangent to a circle whose centre is O. If PT = 12 cm and PO = 13 cm then find teh radius of the circle. (a) 5 cm (b) 4 cm (c) 6 cm (d) 4.5 cm

3. In the given figure, PT is a tangent to the circle and O is its centre. Find OP.
(a) 16 cm
(b) 15 cm
(c) 18 cm
(d) 17 cm

4. In the given figure, ABC is a right right angled at B such that BC = 6 cm and AB = 8 cm. Find the radius of the circle.
(a) 3 cm
(b) 2 cm
(c) 4 cm
(d) 5 cm

29. The probability of a leap year selected at random contain 53 Sunday is:

(a) 53/366	(b) $1/7$	(c) 2/7	(d) 53/365					
(a) 55/ 500			(u) 55/505					
30. A bag contains 3 red a black ball is :	and 2 blue marbles. A m	arble is drawn at random. The	probability of drawing					
(a) 3/5	(b) 2/5	5 (c) 0/5	(d) 1/5					
31. The probability that it $(a) 0.25$	will rain tomorrow is 0. (b) 0.145	.85. What is the probability that $(c) 3/20$	t it will not rain tomorrow (d) none of these					
(d) 0.25	(0) 0.145	(0) 3/20	(d) none of these					
32. The sum of the probab	ility of an event and non	event is:						
(a) 2	(b) 1	(c) 0	(d) none of these.					
33. What is the area of a se	emi–circle of radius 5 cm	n?						
(a) 78.57 cm	(b) 71.42 cm	(c) 63.18 cm	(d) 79.86 cm					
34 Centroid of triangle w	$\Delta c_{A} = \frac{1}{2} \int dt $	6) $B(2 - 2)$ and $C(2 - 5)$ is						
a) (0, 2)	b) (0, 3)	c) (1, 3)	d) (1, 2)					
35 If first term of an AP is	s a and nth term is hother	n its common difference is						
a) (b-a)/n+1	b) (b-a)/n-1	c) (b-a)/n	d) none of these					
36. If k, 2k-1 and 2k+1 ar	e three consecutive term	as of an A.P. Find the value of	k.					
37. A funnel is the combin	ation of							
a). Cone and a cylinder	er	b). Frustum of a cone and cone	nd cylinder					
$\frac{29}{100}$ If the point (x, y) is	aquidistant from the noi	(a + b, b) and $(a - b, a)$	b) prove that $h_{x} = a_{x}$					
38 If the point (x, y) is		a = 0, a = 0 and $(a = 0, a = 0)$	$- b), \qquad \text{prove that } bx = ay.$					
39. If the n term of the A.	P. –1, 4, 9, 14, 18 12	29, find the value of n.						
40. The shadow of a 30 m elevation of the sun at that	high tower on the ground time.	d at some time of the day is 10	3 m long. Find the angle of					
41. If three different acing	are togged together then	find the probability of getting	two boods					
41. If the unified the course	random from the number	$r_{1} = 3 - 2 - 1 = 0 + 2 - 3$ What	will be the probability that					
square of this number is le	ss then or equal to 1?	15 J, 2, 1,0,1,2, J. What	will be the probability that					
43. If the distance between	the points $(4, k)$ and $(1, k)$	0) is 5, then what can be the p	ossible values of <i>k</i> ?					
44. The ratio of the height of elevation of the sun?	of a tower and the length	h of its shadow on the ground i	s 3:1. What is the angle					
45. Volume and surface ar hemisphere?	45. Volume and surface area of a solid hemisphere are numerically equal. What is the diameter of hemisphere?							
46. If the angle between two	tangents drawn from an	external point P to a						

circle of radius a and centre O, is 60° , then find the length of OP.

47. What is the common difference of an A.P. in which $a_{21} - a_7 = 84$?

48. The probability of selecting a rotten apple randomly from a heap of

900 apples is 0.18. What is the number of rotten apples in the heap ?

49. Find the value of a, for which point P (a, 2) is the mid-point of the line segment joining the points Q(-5,4) and R(-1,0)

50. If nth term of an A.P. is (2n+1), what is the sum of its first three terms?

DAV PS, Chhal Mathematics (041) Q1. The ratio between the HCF and LCM of 5,15,20 is (b) 4:3 (a) 9:1 (c) 11:1 (d) 12:1 Q2. If A = 2n+13, B = n+7, where n is a natural number, then HCF of A and B is (a) 2 (d) 4 (b) 1 (c) 3 Q3. If two positive integers p and q can be expressed as $p = ab^2$ and $q = a^3b$; Where a, b being numbers, then LCM(p,q) is equal to (a) ab (b) a^2b^2 $(c) a^{3}b^{2}$ $(d)a^2b^3$ Q4. Which of the following rational numbers have a terminating decimal expansion. (a) 125/441 (b) 77/210 (c) 15/1600 (d) 129/300 Q5. The decimal expansion of number $\frac{441}{2^25^37^2}$ has ______ decimal expansion. Q6. The decimal expansion of 17/8 will terminate after how many places of decimal. (d) will not terminate (a) 1 (b) 2 (c) 3 Q7. If one of the zeros of the quadratic polynomial $(k-1)x^2 + kx + 1$ is -3, then the Value of k is (a) 4/3 (b) -4/3 (c) 2/3(d) -2/3Q8. If the zeroes of the quadratic polynomial $x^2 + (a+1)x + b$ are 2 and -3 then (a) a = -7, b = -1 (b) a = 5, b = -1 (c) a = 2, b = -6 (d) a = 0, b = -6Q9. If $p(x) = ax^2 + bx + c$, then -b/a is equal to (b) 1 (a) 0 (c) product of zeros (d) sum of zero Q10. if $p(x) = ax^2 + bx + c$ and a+b+c, then one zero is (a) -b/a (b) c/a (c) b/c (d) none of these Q11. The number of polynomials having zeroes as -2 and 5 is (a) 1 (d) more than 3 (b) 2 (c) 3 Q12. If the product of the zeroes of $x^2 - 3kx + 2k^2 - 1$ is 7, then the Values of k are _____ and Q13. The pair of linear equations 2x+3y = 5 and 4x + 6y = 10 is (a) Inconsistent (b) consistent (c) dependent consistent (d) none of these Q.13 The pair of equations y = 0 and y = -7 has (a) one solution (b) two solution (c) no solution (d) infinite solution Q.14 The pair of equations x = a and y = b graphically represents lines which are (a) Parallel (b) coincident (c) intersecting at (a,b) (d) intersecting at (b,a) Q15 On solving the pair of linear equations 2x-y = 2 and 5x + 2y = 14 by substitution method, values of x and y are _____ and _____ Q.16 If x = 2 is a solution of the equation $x^2 - 5x + 6k = 0$, then the value of k is _____. 0.17 $(x^2 + 1)^2 - x^2 = 0$ has (b) two real roots (c) one real roots (d) no real roots (a) four real roots Q.18 If α, β are roots of $x^2 + 5x + a = 0$ and $2\alpha + 5\beta = -1$ then α is equal to _____. Q.19 If p, q, r are in A.P, then $p^3 + r^3 - 8q^3$ is equal to (a) 4pqr (c) 2pqr (b) -6pqr (d) 8pqr Q. 20 If the nth term of an A.P. is (2n + 1), then the sum of its three terms is (b) 15 (a) 6n+3 (c) 12 (d) 21 Q.21 All circle are _____. (congruent / similar).

	In triangle ABC and DEF, <	$\langle B = \langle E, \langle F = \langle e \rangle$	C and AB = 3 DE	2. Then the two tr	angles are
	(a)	Congruent but	not similar .	(b) s	similar but not
	congruent.				
	(c) neither congruent nor sim	ilar (d) co	ngruent and simil	ar.	
Q.23	In triangle ABC, $AB = 6\sqrt{3}$ c	cm, AC = 12 cm and E	SC = 6 cm.Then t	he angle B is	•
Q.24	The lengths of diagonals of	a rhombus are 16 cm	and 12 cm. The	en the length of th	e side of the
	rhombus is.				
0.05	(a) 9cm (b) 10	$\begin{array}{c} cm \\ cm$	cm	(d) 20 cm	
Q.25	A triangle with vertices (4, 0), $(-1,-1)$ and $(3, 5)$ 1	s an		
	(a) equilateral triangle.	(D) Ilg	gnt angled triangle	e e of these	
0.26	(c) isosceles fight alight (4.0) , (4.0) and (0.1)	(findingle.	(u) non	le of these.	
Q.20	(a) right angled trians	b) are the vertices of a (b) is	osceles triangle		
	(c) equilateral triangle	e (0) 150	(d) scalene trian	ole.	
O.27	If the distance between the po	bints $(4,p)$ and $(1,0)$ is	5 units, then the v	value of p is	
	(a) 4 only (b) ± 4	(c) -	4 only (d) 0	
Q.28	If $P(a/3,4)$ is the mid point of	of the line segment joi	ning the points Q	(-6,5) and R(-2,3)	then the value
-	of a is	0 0			
	(a) -4 (b) -2	12 (c) 1	2 (d) -6	
Q.29	A straight lines is drawn joinin	g the points (3,4) and	(5,6). If the line I	Line extended, the	ordinate of the
	point on the line, whose absci	ssa is -1 is	:		
Q.30	The line $3x + 4y = 24$ cuts the	e x - axis at A and y	-axis at B. If O is	s the origin, The a	rea of triangle
0.21	AOB IS				
Q.31	Reciprocal of cotA is	·			
Q.32	$\frac{2iun30}{1+tan^230^{\circ}}$ is equal to				
(a) $\sin 60^{\circ}$ (b) $\cos 60^{\circ}$	(c) tan 60°	$(d) \sin 30^{\circ}$		
	(0) 00000	(c) unoo	<i>(a) sinso</i>		
Q33	sin2A = 2sinA is true whe	n A is equal to	<i>(a) stit50</i>		
Q33 (a)	$\sin 2A = 2\sin A$ is true whe	n A is equal to 0^0 (b)) 30 ⁰	(c) 45°	(<i>d</i>) 60 ⁰
Q33 (a) Q.34	$\sin 2A = 2\sin A$ is true whe If triangle ABC is right angle	n A is equal to 0 ⁰ (<i>b</i> d at C, then the value) 30 ⁰ of cos(A+B) is	(c) 45°	(d) 60 ⁰
Q33 (a) Q.34	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1	n A is equal to 0^0 (b d at C, then the value (c) $\frac{1}{2}$	(a) striso) 30 ⁰ of cos(A+B) is (d) 3	(c) 45° /2	(<i>d</i>) 60 ⁰
Q33 (a) Q.34 Q.35	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^0 < A < 9$	n A is equal to 0° (b) d at C, then the value (c) $\frac{1}{2}$ 0° , then A is equal to	(d) 30 ⁰ of cos(A+B) is (d) 3,	(c) 45 ⁰	(d) 60 ⁰
Q33 (a) Q.34 Q.35 Q.36	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^0 < A < 9$ The angle of elevation of the S	n A is equal to 0^0 (b d at C, then the value (c) $\frac{1}{2}$ 0^0 , then A is equal to un, if the length of the	(a) strists) 30 ⁰ of cos(A+B) is (d) 3. 	(c) 45⁰ /2 er Of height 20m is	(d) 60 ⁰ s 20√3 m is
Q33 (a) Q.34 Q.35 Q.36	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^0 < A < 9$ The angle of elevation of the S (a)	n A is equal to 0° (b d at C, then the value (c) $\frac{1}{2}$ 0° , then A is equal to un, if the length of the 30° (b)	(d) statistic(d) statis	(c) 45 ⁰ /2 er Of height 20m is 60 ⁰	(d) 60 ⁰ s 20√3 m is (d) 75 ⁰
Q33 (a) Q.34 Q.35 Q.36 (Q.37	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^0 < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i	n A is equal to 0° (b d at C, then the value (c) $\frac{1}{2}$ 0° , then A is equal to un, if the length of the 30° (b t in po	(a) 30° of $\cos(A+B)$ is (d) 3. (d) 3. (d	(c) 45 [°] /2 er Of height 20m is 60 [°]	(d) 60° s $20\sqrt{3}$ m is (d) 75°
Q33 (a) Q.34 Q.35 Q.36 (Q.37 Q38	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^0 < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i If the area of the circle is nu	n A is equal to 0° (b d at C, then the value (c) $\frac{1}{2}$ 0° , then A is equal to un, if the length of the 30° (b t in po merically equal to two	(d) 30° of $\cos(A+B)$ is (d) 3 shadow of a towe) 45° (c) ints. vice its circumfe	(c) 45 ⁰ /2 er Of height 20m is 60 ⁰ rence, Then the di	(<i>d</i>) 60° s $20\sqrt{3}$ m is (<i>d</i>) 75^{\circ} iameter of the
Q33 (a) Q.34 Q.35 Q.36 (Q.37 Q38	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^0 < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i If the area of the circle is nuccircle is	n A is equal to 0° (b d at C, then the value (c) $\frac{1}{2}$ 0° , then A is equal to un, if the length of the 30° (b t in po merically equal to tw	(d) stribution of cos(A+B) is (d) 3. (d) 3. (c) (c) (c) (c) (c) (c) (c) (c) (c) (c)	(c) 45 [°] /2 er Of height 20m is 60 [°] rence, Then the di	(d) 60° s $20\sqrt{3}$ m is (d) 75° iameter of the
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Q33 (a) Q.34 Q.35 Q.36 (Q.37 Q38 Q.39	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^0 < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i If the area of the circle is nuclicity (a) 4 units (b) 8 During the conversion of a so (a) Increase	n A is equal to 0 ⁰ (b d at C, then the value (c) ^{1/2} 0 ⁰ , then A is equal to un, if the length of the 30 ⁰ (b t in po merically equal to tw units blid from one shape to (b) decrease	(d) striso) 30 ⁰ of cos(A+B) is (d) 3. (e) shadow of a towe) 45 ⁰ (c) ints. vice its circumfe (c) 2 units another, the volum (c) rem	(c) 45 ⁰ /2 er Of height 20m is 060 ⁰ rence, Then the di (d) me of The new sh nain unaltered	(d) 60° s $20\sqrt{3}$ m is (d) 75° iameter of the π units. ape will (d) be
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Q33 (a) Q.34 Q.35 Q.36 (Q.37 Q38 Q.39 (Q.40	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^{\circ} < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i If the area of the circle is nuccircle is (a) 4 units (b) 8 During the conversion of a so (a) Increase doubled. The mean of first n natural D.A.V PUB CLASS- 10	n A is equal to 0° (b d at C, then the value (c) ½ 0°, then A is equal to un, if the length of the 30° (b t in po merically equal to tw units blid from one shape to (b) decrease number is LIC SCHO SHORT ANSWE	(a) stable of cos(A+B) is (d) 3. (c) (c) (c) (c) (c) 2 units (c) 2 units (c) 2 units (c) rem (c) rem (c) rem (c) rem	(c) 45 ⁰ /2 er Of height 20m is 60 ⁰ rence, Then the di (d) me of The new sh hain unaltered DCO, BH ATHEMATICS	(d) 60° s $20\sqrt{3}$ m is (d) 75^{\circ} iameter of the π units. ape will (d) be
Q33 (a) Q.34 Q.35 Q.36 (Q.37 Q38 Q.39 (Q.40	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^{\circ} < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i If the area of the circle is nucleon circle is (a) 4 units (b) 8 During the conversion of a sec (a) Increase doubled. The mean of first n natural D.A.V PUB CLASS- 10 The decimal expansion of	n A is equal to 0° (b d at C, then the value (c) ^{1/2} 0°, then A is equal to un, if the length of the 30° (b t in po merically equal to tw units blid from one shape to (b) decrease number is LIC SCHO S SHORT ANSWE f ²¹ will terminate	(a) stable of cos(A+B) is (d) 3, (d) 3, (e) shadow of a tow (f) 45° (c) ints. vice its circumfe (c) 2 units another, the volum (c) rem OL, HUI UBJECT- MA CR QUESTIO after how many	(c) 45° /2 er Of height 20m is 60° rence, Then the di (d) me of The new sh aain unaltered DCO, BH ATHEMATICS NS	(d) 60° s $20\sqrt{3}$ m is (d) 75° iameter of the π units. ape will (d) be
Q33 (a) Q.34 Q.35 Q.36 (Q.37 Q38 Q.39 Q.39 Q.40 Q.40	sin2A = 2sinA is true whe lif triangle ABC is right angle (a) 0 (b) 1 lif sinA = cosA, $0^{\circ} < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i lif the area of the circle is nucleon circle is (a) 4 units (b) 8 During the conversion of a so (a) Increase doubled. The mean of first n natural D.A.V PUB CLASS- 10 The decimal expansion of a)	n A is equal to 0° (b d at C, then the value (c) ¹ / ₂ 0°, then A is equal to un, if the length of the 30° (b t in po merically equal to tw units blid from one shape to (b) decrease number is LIC SCHO SHORT ANSWE f ²¹ / ₂₄ will terminate	(a) stable of cos(A+B) is (d) 3, (d) 3, (e) shadow of a tow (f) 45° (c) ints. vice its circumfe (c) 2 units another, the volum (c) rem OL, HUI UBJECT- MA CR QUESTIO after how many	(c) 45° /2 er Of height 20m is /60° rence, Then the di (d) me of The new sh hain unaltered DCO, BHI ATHEMATICS NS y places of decim	(d) 60° s $20\sqrt{3}$ m is (d) 75° iameter of the π units. ape will (d) be
Q33 (a) Q.34 Q.35 Q.36 (Q.37 Q38 Q.39 Q.39 Q.40 Q.40	sin2A = 2sinA is true whe lif triangle ABC is right angle (a) 0 (b) 1 lif sinA = cosA, $0^{\circ} < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i lif the area of the circle is nucleon circle is (a) 4 units (b) 8 During the conversion of a sec (a) Increase doubled. The mean of first n natural D.A.V PUB CLASS- 10 The decimal expansion of a) 1 b)	n A is equal to 0^{0} (b d at C, then the value (c) $\frac{1}{2}$ 0^{0} , then A is equal to un, if the length of the 30^{0} (b t in po merically equal to tw units blid from one shape to (b) decrease number is LIC SCHO S SHORT ANSWE f $\frac{21}{24}$ will terminate 2	(a) stable of cos(A+B) is (d) 3. (e) (c) (c) (c) 2 units (c) 2 units (c) 2 units (c) rem (c) rem (c) rem (c) rem (c) rem (c) rem (c) rem (c) after how many (c) 3	(c) 45° /2 er Of height 20m is 60° rence, Then the di (d) me of The new sh hain unaltered DCO, BHI ATHEMATICS NS y places of decim d)	(d) 60° s $20\sqrt{3}$ m is (d) 75° iameter of the π units. ape will (d) be ILAI S al? 4
Q33 (a) Q.34 Q.35 Q.36 (Q.37 Q38 Q.39 Q.39 Q.40 Q.40	sin2A = 2sinA is true whe If triangle ABC is right angle (a) 0 (b) 1 If sinA = cosA, $0^{\circ} < A < 9$ The angle of elevation of the S a) A tangent to a circle intersect i If the area of the circle is nucleon circle is (a) 4 units (b) 8 During the conversion of a sec (a) Increase doubled. The mean of first n natural D.A.V PUB CLASS- 10 The decimal expansion of a) 1 b) (Ans. c) The rational number where	n A is equal to 0° (b) d at C, then the value (c) ½ 0°, then A is equal to un, if the length of the 30° (b) t in po merically equal to tw units blid from one shape to (b) decrease number is LIC SCHO SHORT ANSWE f $\frac{21}{24}$ will terminate 2	(a) stable (b) 30° of cos(A+B) is (c) 3. (c) 45° (c) ints. vice its circumfe (c) 2 units another, the volum (c) rem OL, HUI UBJECT- MA CR QUESTIO after how many c) 3 on is 0 \overline{z} is	(c) 45° /2 er Of height 20m is /60° rence, Then the di (d) me of The new sh aain unaltered DCO, BHI ATHEMATICS NS y places of decim d)	(d) 60° s $20\sqrt{3}$ m is (d) 75° iameter of the π units. ape will (d) be ILAI S al? 4

	a) $\frac{33}{50}$	b)	2 3			c)	111 167				d)	<u>1</u> 3
	(Ans. b)											
Q.3.	Euclid's Divisio exists unique	n Le e integ	mma sta gers q ar	ates nd r s	that for such th	r any at a =	two posi = bq + r,	tive in where	tegers r mus	a and i t satisf	b, ther y	e
	a) 0 < <i>r</i> < <i>b</i>	b)	$0 \leq r$	< <i>b</i>		c)	$0 < r \leq$	b		d)	$0 \leq r$	$\cdot \leq b$
	(Ans. b)											
Q.4.	If d = LCM (36, 1	198), t	hen the	valu	e of d i	s						
	a) 396	b)	198		c)	36			d)	1		
	(Ans. a)											
Q.5.	Which one of the	follow	ving is ar	n irr	ational	num	ber?					
	a) 0.371371371		•••••	b)	2.39	c)	2.4	d)	4.010	01000	1	
	(Ans. d)											
Q.6.	What will be the	maxir	num nur	nbei	c of zer	oes of	a polyno	omial c	of degr	ee n ? (Ans. n)
\mathbf{O}	m 1 1 e	1	• 1 ()	· 1	л	11	1 0		c (、 •		

Q.7. The graph of a polynomial p(x) is shown. The number of zeroes of p(x) is.....



(Ans. 3)

- Q.8. If x + 1 is a factor of x^2 3ax + 3a -7, then the value of a is a) 1 b) -1 c) 0 d) 2 (Ans. a)
- Q.9. If one zero of the polynomial $9x^2 + 13x + 6a$ is reciprocal of the other, then a is equal to a) $\frac{1}{9}$ b) $\frac{2}{3}$ c) $\frac{3}{2}$ d) $\frac{1}{6}$ (Ans. c)
- Q.10. A quadratic polynomial whose sum and product of zeroes 3 and 0 respectively is a) $x^2 + 2x$ b) $x^2 + 3x$ c) $x^2 - 3x + 5$ d) x(x - 3)(Ans. d)
- Q.11. The pair of linear equations 3x 5y = 7 and 6x 10y = 7 has a) one solution b) two solutions c) infinitely many solutions d) no solution (Ans. d)
- Q.12. If a pair of linear equations is consistent, then its graphs will bea) coincidentb) parallel c) intersectingd) coincident or intersecting(Ans. d)
- Q.13. The value of k for which the pair of linear equations 4x + 6y 1 = 0 and 2x + ky 7 = 0 represents parallel lines is
 - a) k = 3 b) k = 2 c) k = 4 d) k = -2 (Ans. a)

Q.14. If one root of the equation $px^2 - 14x + 8 = 0$ is 6 times the other, then p is equal to a) 2 b) 3 c) 1 d) none of these (Ans. b)

Q.15. The quadratic equation $2x^2 - \sqrt{5}x + 1 = 0$ has

	a) 2 distinct real roots	c) no real roots	
	b) 2 equal real roots	d) more than 2 roots	
	(Ans. c)		
Q.16.	Which of the following is a root of the	equation $2x^2 - 5x - 3 = 0$?	
	a) $x = 3$ b) $x = 4$	c) $x = 1$ d) $x = -3$	
_	(Ans. a)		
Q.17.	The value of k for which the equation	$3x^2 + 2x + k = 0$ has real roots is	
	a) $k > \frac{1}{2}$ b) $k \le \frac{1}{2}$	c) $k \ge \frac{1}{2}$	d) $k < \frac{1}{2}$
	(Ans d)	3	5
Q.18.	The sum of first five multiples of 3 is	(Ans. 45)	
Q.19.	Which term of the A.P 1. 4. 7	is 88? (Ans. 30)	
Q 20	The common difference of the A P $\sqrt{2}$	$\overline{2}\sqrt{8}\sqrt{18}$ is	
Q.20.	$\frac{1}{2}$ b) $\frac{10}{2}$	$a) \sqrt{2}$	d $2\sqrt{2}$
a	(Arra c)		$d = 2\sqrt{2}$
	(Ans. c) $A^{D} = A^{D} = A^{D}$		
Q. 21.	In \triangle ABC, if DE BC, $\frac{DB}{DB} = \frac{1}{4}$ and AC	E = 15 cm, then AE =	
	(Ans. $\frac{45}{7}$ cm)		
Q. 22.	Distance of a point A $(0, -3)$ from the o	origin is	
•	(Ans. 3)	0	
Q. 23.	Mid-point of the line segment joining	points (-2 , 4) and (6, 10) is	
	(Ans. (2, 7))		
Q. 24.	The distance between the points $(0, 5)$) and (-5 ,0) is	
	(Ans. $5\sqrt{2}$)		
Q. 25.	Angle in a semicircle is always a	angle.	
•	(Ans Right)		
Q. 26.	If two circles touch externally, then	common tangents can be dr	awn to them.
-	(Ans. 3)	_	
Q. 27.	A point P is 25 cm from the centre of t	the circle. The radius of the circle i	is 7cm and length of
the	to a most durant for a Dto the similar		
	(Ans. 24cm)	le 18cm.	
Q. 28.	If $x = 2 \sin^2 \theta$ and $y = 2 \cos^2 \theta + 1$, then	$x + y = \underline{\qquad}.$	
	(Ans. 3)		
Q. 29.	If $\sin \theta = \frac{3}{2}$, then $3 \cos \theta + \sin \theta =$		
·	$(\Lambda nc, 3)$		
Q 30	The value of θ for which sin $2\theta = 1$ ($1^{\circ} < A > 90^{\circ}$ is	
Q . 50.	(Ans 45°)		
Q 31	$\sin 20^{\circ} \sin 70^{\circ} - \cos 20^{\circ} \cos 70^{\circ} =$		
Q . 01.	(Ans 0)	·	
Q 32	If Ω is the centre of the circle PQ is a	chord and the tangent PR at P ma	akes an angle of
.્યુ. ્ય⊒.	50° with PQ, then \checkmark POQ =		and an angle of
		P	
	/	R	
		100	



(An	s. 100°)				
Q. 34. Minimu (An	m value of sin ² A s. 2)	+ $\operatorname{cosec}^2 A$ is _	0°≤ A < 90°.		
Q. 35. The value	ue of $\frac{\tan 30^\circ}{\cos 60^\circ} =$				
(An	s. 1)				
Q. 36. The value	$10^{\circ} \text{ of } \sin 45^{\circ} + \cos 30^{\circ}$	45° is			
(An	s. <mark>√2</mark>)				
Q. 37. If $\cos \theta$	$=\frac{1}{2}$, $\sin \Phi = \frac{1}{2}$, the	en the value of	θ + Φ is	(0 ≤ θ, Φ≤ 90°)	
(An)	s. 90°)				
(An	s. 45°)	•			
Q. 39. The mic (An	point of the line s. -4 , 2)	segment joinin	g the points A (-2,	8) and B(-6, -4) is _	
Q. 40. If $\triangle ABC$	~ ΔDEF , area of	$\Delta \text{DEF} = 100 \text{cm}$	$\frac{1}{2}, \frac{AB}{DE} = \frac{1}{2}$, then are	e of $\triangle ABC = $	
(An	s. 25 cm^2)				
Q. 41. A numb	er is selected from	n numbers 1 to	25. The probabilit	ty that it is a prime	e number is-
a) -	-	b) $\frac{1}{6}$	$c)\frac{1}{3}$		d) $\frac{9}{25}$
(Ans	-d <u></u>)	-	-		
Q. 42. Two diff	erent coins are to d is-	ssed simultane	eously. The probab	oility of getting atle	east one
$a)^{\frac{1}{2}}$	$h)^{1}$	$c)^{\frac{3}{2}}$		$d)^{\frac{7}{2}}$	
4	×78 \3	4		8	
(A	$\operatorname{ns} c)_{4}^{-}$				
Q. 43. Two dic	e are thrown toge	ther. The probe	ability of getting the	he same number or	n both dice
18-	1	1	1	1	1
a) -	, to) _ 3	c) _	a,	12
(An	$sc = \frac{1}{6}$				
Q. 44. The dia: hei	neters of the ends ght is 10cm, then	s of a frustum o its lateral surf	of a cone are 32 cm ace area is	1 and 20 cm. If its s	lant
a) 3	$21\pi \text{cm}^2$ b)	$300\pi \text{cm}^2$	c) $260\pi \text{cm}^2$	d) $250 \ \pi \text{cm}^2$	
(A	ns c 260π cm ²)				
Q. 45. If two so	lid-hemispheres	of same base ra	idius r are joined	together along thei	r bases,
the	$\frac{1}{2}$	area of this nev b) $6\pi r^2$	v solid is-	d)82	
$(\Delta n s a)$	$\frac{nr}{2}$	D O T	C)SHT	ujonr	
Q. 46. If the m	edian of the data	6, 7, x-2,x,17,2	0 written in ascen	ding order is 16.the	en x=
a) 1	5	b) 16	c)	d) 17 d)) 18
(A	ns c 17) h a marth a da a C dat		•_		
Q. 47. One of t	ne metnoas of aet Iodo – Modion	armining mode	e 18 b) Mod	o = 9 Modion + 3 M	loon
c) N	Iode = 3 Median - Iode = 3 Median -	- 2 Mean	d) Mou	de = 3 Median + 2 i	mean
(An	s c)		u) 110		inoun
Q. 48. The abs	cissa of the point	of intersection	of less than type a	and of the more tha	n type
cun	ulative frequency	y curves of a gr	ouped data gives i	its	_
a) r	h) m	adian (a) mode	d) all that	hree shove
/ 1 1 1) mode	u) all the t	

Q. 49. The ar a)	ea of the larges r^2	st triangle that car b) 2 r²	n be inscribed in a c) r³	a semi-circle o	of radius r is d)2 r³	
(Ans a	r ²)					
Q. 50. If the c	lifference betw cumference of	een the circumfer the circle is-	ence and radius o	f a circle is 37	cm, then the	
a)	154cm	b) 44cm	c) 14cm		d) 7cm	
(Ans b	44)	,	,		,	
Q. 51. The pr	obability that :	a non-leap year ha	s 53 Sundays is _		(Ans $\frac{1}{7}$)
Q. 52. The pr	obability of get (Ans $\frac{10}{13}$	tting a non-face ca	rd from a well sh	uffled deck of	52 cards is	
Q. 53. If the a	arithmetic mea	n of 7, 8, x, 11, 14	is x, then x=		(Ans 10)	
Q. 54. The di	ameter of a spl	nere is 6cm. It is n	elted and drawn	into a wire of	diameter 2mn	a.
TI (A	ie length of the ns 36m)	e wire is				
Q. 55. Volum (A	es of two cubes ns 1:9)	are in the ratio 1	27, the ratio of t	heir surface a	reas is	_·
Q. 56. If the r	umerical valu cumference, tl	e of the area of a c nen its radius =	ircle is equal to t	he numerical	value of its	
(Ans 2	units)					
Q. 57. If the j (A	perimeter of a s ns 14 cm)	semi-circular proti	actor is 36cm, th	en its diamete	ər is	
Q. 58. If a sq	are is inscribe	ed in a circle , the $(Ans \pi:2)$	catio of the areas	of the circle	and the squar	e is
$\bigcirc 59 \text{ Find t}$	ne class-mark (of the classes 10-2	5 and 35-55		(Ans	17 5 and
45)			, and be be.		(1111)	11.0 4114
Q. 60. The ra	dii of two cvlin	ders are in the rat	io 3:5. If their he	ights are in th	ne ratio 2:3 the	n
fir	nd the ratio of	their curved surfa	e areas.	0		
	(<i>I</i>	Ans 2:5)				

DAV PS, Rajhara Math - Basic

Objective Type Questions For Class X

Subject : Mathematics (Basic)

Que.01. MCQ problems :

1. Euclid's division lemma states that for two positive integers a and b, there exists unique integer q and r such that a = bq + r, where r satisfy

(a) 1 < r < b(b) $0 < r \le b$ (c) $0 \le r < b$ (d) 0 < r < b2. If p, q are two consecutive natural numbers, then H.C.F.(p, q) is (b) p (c) 1 (d) pq (a) q 3. If p, q are two prime numbers, then L.C.M.(p, q) is (a) 1 (b) p (c) q (d) pq 4. The decimal expansion of $\frac{141}{120}$ will terminate after how many places of decimals? (d) will not terminate (c) 3 (a) 1 (b) 2 5. If the LCM of 4 and 18 is 36 and HCF of 4 and 18 is x, then x is equal to -(b) 2 (c) 4 (a) 3 (d) 6. If d= HCF of 48 and 72, the value of d is eqal to -(c) 72 (d) 48 (a) 48 (b) 12 7. If the zeroes of the quadratic polynomial $ax^2 + bx + c, c \neq 0$ are equal, then

(a) c and a have opposite signs(c) c and a have the same signs (b) c and b have opposite signs (d) c and b have the same signs 8. If the product of zeroes of the polynomial $f(x) = ax^3 - 6x^2 + 11x - 6$ is 4, then a is equal to -(a) $\frac{-3}{2}$ (b) $\frac{3}{2}$ (c) $\frac{2}{3}$ (d) $\frac{-2}{3s}$ 9. If the lines represented by 3x + 2ky = 2 and 2x + 5y + 1=0 are parallel, then the value of k is -(a) $\frac{-5}{4}$ (b) $\frac{2}{5}$ (c) $\frac{15}{4}$ (d) $\frac{3}{2}$ 10. For what value of k will the equation x + 2y + 7 = 0 and 2x + ky + 14 = 0, represents coincident lines ? (b) 4 (c) 6 (a) 2 (d) 3 11. If a pair of linear equation in two variables is inconsistent, then the lines represented by these equations are -(a) coincident (b) parallel (c) intersecting (d) None 12. Which constant should be added or subtracted to solve the quadratic equation $9x^2 + \frac{9}{4}x - \sqrt{2} = 0$, by the method of completing squares ? (a) $\frac{1}{8}$ (b) $\frac{9}{64}$ (c) $\frac{1}{4}$ (d) $\frac{1}{64}$ 13, The roots of the equation $x^2 + x - p(p+1) = 0$, Where p is a constant, are -13, The roots of the equation $x^2 + x - p(p + 1) = 0$, Where p is a constant, are -(a) p, p + 1 (b) -p, -p+1 (c) p, -p+1 (d) -p, -(p+1) 14. If y = 1 is a common root of the equation $ay^2 + ay + 3 = 0$ and $y^2 + y + b = 0$, then a - b is equal to : (a) $\frac{1}{2}$ (b) $\frac{-7}{2}$ (c) $\frac{3}{2}$ (d) $\frac{-3}{2}$ 15. If $ax^2 + bx + c = 0$, has equal roots, then their sum is -(a) $\frac{b}{a}$ (b) $\frac{-b}{a}$ (c) $\frac{b}{2}$ (d) $\frac{-3}{2}$ 16. Sum of n terms of the series $\sqrt{2} + \sqrt{8} + \sqrt{18} + \sqrt{32} + \cdots$ is (a) $\frac{n(n+1)}{2}$ (b) $\frac{n(n+1)}{\sqrt{2}}$ (c) 2n(n+1) (d) 1 17. In an A.P., If a = 3.5, d = 0, n = 101, then a_n will be -(a) 0 (b) 3.5 (c) 103.5 (d) 104.518. The sum of first 4 terms of the A.P. whose nth term is given by $a_n = 2n + 1$ is (a) 6n+3 (b) 15 (c) 12 (d) 3n + 1218. The sum of first 4 terms of the A.P., whose nth term is given by $a_n = 2n + 1$ is (a) 6n+3 (b) 15 (c) 12 (d) 21 19. If the sum of three terms in A.P. is 24, then middle term is – (a) 6 (c) 3 (b) 8 (d) 2 20. The sum of n terms of an A.P. is $3n^2 + 5n$, then 164 is its (a) 24^{th} term (b) 27^{th} term (c) 26^{th} term (d) 25^{th} term 21. The distance of the point P(4, 3) from the y-axis is – (b) 4 (c) 1 (a) 2 (d) 5 22. The perimeter of triangle whose vertices are (0, 4), (0, 0) and (3, 0) is – (b) 12 (c) 11 (d) 17 (a) 5 23. If the points (1, 2), (0, 0) and (a, b) are collinear, then – (b) a = 2b (c) 2a = b(a) a = b(d) a = -b24. The area of the triangle whose vertices are (5, 0), (8, 0) and (8, 4) is-(b) 12 (a) 20 (c) 6 (d) 16 25. The ratio in which the x-axis divides the line segment joining (3, 6) and (12, -3) is -(d) none of these (b) 1 : 2 (c) -2 : 1 (a) 2 :1 26. The ratio in which the y-axis divides the line segment joining (3, 6) and (12, -3) is -(a) 2 :1 (b) 1 : 4 (c) -2 : 1 (d) none of these 27. Sides of two triangles are in the ratio 4 : 9. Area of these triangles are in the ratio – (a) 2 : 3 (b) 4 : 9 (c) 81:16 (d) 16 :81 28. ABCD is a trapezium such that BC || AD and AB = 4cm. If the diagonals AC and BD intersect at O such that $\frac{AO}{OC} = \frac{DO}{OB} = \frac{1}{2}$, then DC = (a) 7cm (b) 8cm (c) 9cm (d) 6 cm 29. The perimeter of two similar triangles ABC and PQR are respectively 60cm and 36cm. If PQ = 9cm, then AB =(d) 24cm (a) 6cm (b) 10cm (c) 15cm 30. If angle between two radii of a circle is 130° , the angle between the tangents at the ends of radii is – (b) **50**⁰ (c) **70**⁰ (a)**90**⁰ (d) **40⁰**

31. The distance between two parallel tangents of a circle of radius 3cm is -(a) 6cm (b) 3cm (c) 4.5cm (d)12cm 32. If four sides of quadrilateral ABCD are tangential to a circle, then (a) AC+AD = BD + CD(b) AB + CD = BC + AD(c) AB + CD = AC + BC(d) AC + AD = BC + DB33. If $\sin\theta = \frac{1}{2}$, then the value of $\sin\theta(\sin\theta - \csc\theta)$ is -(c) $\frac{\sqrt{3}}{2}$ (a) 🛓 (d) $\frac{-\sqrt{3}}{2}$ (b) $\frac{-3}{4}$ 34. If $\sec\theta - \tan\theta = \alpha$ then $\sec\theta + \tan\theta$ is equal to – (b) $\frac{1}{\alpha}$ (c) α (d) none of these 35. $cot10^{\circ}cot75^{\circ}cot80^{\circ}cot15^{\circ}$ is equal to – (b) 0 (d) cannot be determined (a) 1 (c)-1 36. The value of $(1 + cot\theta - cosec\theta)(1 + tan\theta + sec\theta)$ is – (c) 4 (b) 2 (d) 0(a) 1 37. If the height of a vertical pole is $\sqrt{3}$ times the length of its shadow on the ground, then the angle of the elevation of the sun at that time is – (c) **45**⁰ (d) **75**° (b) **60**⁰ (a) **30**⁰ 38. If the area of a circle is 100 sq.cm., the area of a square inscribed in this circle is -(a) $\frac{200}{\pi}$ sq. cm (b) 100π sq.cm (c) $\frac{50}{\pi}$ cm² (d) 50π sq. cm 39. If the area of the circle is 154 sq. cm , then the perimeter is – (b) 22cm (a) 11cm (c) 44cm (d) 55cm 40. Area of the largest triangle that can be inscribed in a semi circle of radius r units is -(b) $\frac{1}{2}r^2unit^2$ (c) $2r^2unit^2$ (d) r unit (a) $r^2 unit^2$ 41. The volume of a hemisphere is $2425\frac{1}{2}$ cu.cm., then its curved surface area is-(c) 893 sq.cm. (d) 1000 sq.cm. (a) 693 sq cm (b) 793sq cm 42. The number of spherical bullets of radii 1 mm each that can be made out of a cylindrical solid of radius 4 cm and height 6 cm are – (a) 72000 (b) 64000 (c) 96000 (d) none of these 43. Construction of cumulative frequency table is required to determine – (a) Mean (b) Median (c) Mode (d) none of these 44. If mode of 2,5,x, 6, 9, 3, 4, 6, 5, 5 is 5 then x is equal to – (c) 3 (d) none of these (a) 5 (b) 6 45.*If* $\sum f_i = 17$, $\sum f_i x_i = 4p + 63$ and mean = 7, then p is equal to -(a) 15 (b) 12 (c) 14 (d) 13 46. A single letter is selected at random from the word "PROBABILITY". The probability that it is a vowel is (a) $\frac{3}{11}$ (b) $\frac{4}{11}$ (c) $\frac{2}{11}$ (d) $\frac{0}{11}$ 47. A number is selected at random from 1 to 30. Probability that it is a prime number is – (a) $\frac{2}{3}$ (b) $\frac{1}{6}$ (c) $\frac{1}{3}$ (d) $\frac{11}{30}$ Que.02. Fill in the blanks : A line intersecting a circle in two distinct points is called a 1. 2. A circle havetangents. 3. A line meets a circle in one point is called ato the circle. If the total number of observations in n, then the class whose cumulative frequency is greater than $\frac{\pi}{2}$ and 4. nearest to it is called the 5. The class with maximum frequency is called The median of a statistical data is the value ofobservation 6. If the data is arranged in ascending or descending order. The graph drawn using the lower class limits and their corresponding cumulative frequency is called a 7. The graph drawn using the upper class limits and their corresponding cumulative frequency is called a 8.

Que. 03. True/False Type problems :

- 1. "The product of three consecutive positive integers is divisible by **6**ⁿ " Is this statement true or false ? Justify your answer.
- 2. If all the zeroes of cubic polynomial are negative, then all the coefficients and the constant term of the polynomial have the same sign.
- 3. Is the following statement true ? Why ? "Two quadrilaterals are similar, if their corresponding angles are equal".
- 4. The value of $\sin\theta + \cos\theta$ is always greater than 1.
- 5. $\tan\theta$ increases faster than $\sin\theta$ as θ increases.

ANSWERS

Que.01.

1. (c) 2. (c)	3.(d)	4.	(c)	5. (b)	6. (d)	7. (c)	8. (b)	9. (c)	10. (b) 11. (b)
12. (b) 13. (c) 14.(a)	15 (b)	16. (c)	17. (b)	18. (b)	19. (b)	20. (b)	21. (b)	22. (b)	
23. (c) 24. (c) 25. (a)	26. (b)	27. (d)	28. (b)	29. (c)	30. (b)	31. (a)	32.(b)	33. (b)	
34. (b) 35. (c) 36. (b)	37.(b)	38.(a)	39. (c)	40. (a)	41. (a)	42. (c)	43.(b)	44.(a)	
45.(c) 46. (b) 47. (c)									

Que. 02.

- 1. Secant
- 2. Infinitely many
- 3. Tangent
- 4. Median class
- 5. Modal class
- 6. Middle most
- 7. More than ogive
- 8. Less than ogive

Que. 03.

- 1. True
- 2. True
- 3. False
- 4. False
- 5. True

DAV PS, Rajhara Maths-

	Objective T	ype Questions For	Class X	Subject	: Mathematics (Standard)
Que.01.]	MCQ problems :				
2. H	Euclid's division le	mma states that for	two positive	integers a and b, there	e exists unique integer q and r such that
6	u = bq + r, where	r satisfy			
	(b) 1 < r <	b		(b) 0 < r ≤ b	
	(c) <mark>0</mark> ≤ <i>r</i> <	< b	(d)	0 < r < b	
2. If p, q	are two consecutiv	e natural numbers,	then H.C.F.(p, q) is	
	(a) q	(b) p	(c) 1	(d) pq	
3. If p, q	are two prime num	bers, then L.C.M.(p, q) is		

(a) 1 (b) p (c) q (d) pq

4. The decimal expansion of $\frac{141}{120}$ will terminate after how many places of decimals ? (c) 3 (d) will not terminate (b) 2 (a) 1 5. $(-1)^n + (-1)^{8n} = 0$, where n is : (a) any positive integer (b) any odd natural number (a) any positive integer(b) any odd natural num(c) any even natural number(d) any negative integer 6. The least number which divides by all the numbers from 1 to 10 (both inclusive) is (b) 100 (c) 504 (d) 2520 (a) 10 7. If the zeroes of the quadratic polynomial $ax^2 + bx + c, c \neq 0$ are equal, then (a) c and a have opposite signs
(b) c and b have opposite signs
(c) c and a have the same signs
(d) c and b have the same signs 8. If the sum of zeroes of $p(x) = (k^2 - 14)x^2 - 2x - 4$ is 1, then find k : (b) ± 4 (c) ± 2 (d) 9 (a) $\pm \sqrt{18}$ 9. If the lines represented by 3x + 2ky = 2 and 2x + 5y + 1 = 0 are parallel, then the value of k is -(a) $\frac{-5}{4}$ (b) $\frac{2}{5}$ (c) $\frac{15}{4}$ (d) $\frac{3}{2}$ 10.For what value of k will the equation x + 2y + 7 = 0 and 2x + ky + 14 = 0, represents coincident lines ? (a) 2 (b) 4 (c) 6 (d) 311. If a pair of linear equation in two variables is inconsistent, then the lines represented by these equations are -(a) coincident (b) parallel (c) intersecting (d) None 12. Which constant should be added or subtracted to solve the quadratic equation $9x^2 + \frac{9}{4}x - \sqrt{2} = 0$, by the method of completing squares ? (a) $\frac{1}{8}$ (b) $\frac{9}{64}$ (c) $\frac{1}{4}$ (d) $\frac{1}{64}$ 13, The roots of the equation $x^2 + x - p(p+1) = 0$, Where p is a constant, are -(b) p, p + 1 (b) -p, -p+1 (c) p is a constant, are -(b) p, p + 1 (b) -p, -p+1 (c) p is a constant, are -(c) p, -p+1 (d) -p, -(p+1) 14. If y = 1 is a common root of the equation $ay^2 + ay + 3 = 0$ and $y^2 + y + b = 0$, then a - b is equal to : (a) $\frac{1}{2}$ (b) $\frac{-7}{2}$ (c) $\frac{3}{2}$ (d) $\frac{-3}{2}$ 15. If sin θ and cos θ are the roots of the equation $ax^2 + bx + c = 0$, then b^2 is Equal to $a^2 - 2ac$ (b) $a^2 + 2ac$ (c) $a^2 - ac$ (d) $a^2 + ac$ (a) 16. Sum of n terms of the series $\sqrt{2} + \sqrt{8} + \sqrt{18} + \sqrt{32} + \cdots \dots$ is (a) $\frac{n(n+1)}{2}$ (b) $\frac{n(n+1)}{\sqrt{2}}$ (c) 2n(n+1) (d) 1 17. In an A.P., If a = 3.5, d = 0, n = 101, then a_n will be – (a) 0 (b) 3.5 (c) 103.5 (d) 104.5 18. The sum of first 4 terms of the A.P., whose nth term is given by $a_n = 2n + 1$ is (a) 6n+3 (b) 15 (c) 12 (d) 21 19. If the sum of three terms in A.P. is 24, then middle term is – (a) 6 (b) 8 (c) 3 (d) 2 20. The sum of n terms of an A.P. is $3n^2 + 5n$, then 164 is its (a) 24^{th} term (b) 27^{th} term (c) 26^{th} term (d) 25^{th} term 21. The distance of the point P(4, 3) from the x-axis is – (b) 3 (c) 1 (a) 2 (d) 5 22. The perimeter of triangle whose vertices are (0, 4), (0, 0) and (3, 0) is – (a) 5 (b) 12 (c) 11 (d) 17 23. If the points (1, 2), (0, 0) and (a, b) are collinear, then – (a) a = b (b) a = 2b (c) 2a = b(d) a = -b24. The area of the triangle whose vertices are (5, 0), (8, 0) and (8, 4) is-(b) 12 (c) 6 (a) 20 (d) 16 25. The ratio in which the x-axis divides the line segment joining (3, 6) and (12, -3) is -(b) 1 : 2 (c) -2 : 1 (d) none of these (a) 2 :1 26. The ratio in which the y-axis divides the line segment joining (3, 6) and (12, -3) is -(a) 2 :1 (b) 1 : 4 (c) -2 : 1 (d) none of these

27. Sides of two triangles are in the ratio 4:9. Area of these triangles are in the ratio – (a) 2:3(b) 4:9(c) 81:16 (d) 16:81 28. ABCD is a trapezium such that BC || AD and AB = 4cm. If the diagonals AC and BD intersect at O such that $=\frac{DO}{OB}=\frac{1}{2}$, then DC = (a) 7cm (b) 8cm (c) 9cm (d) 6 cm 29. The perimeter of two similar triangles ABC and PQR are respectively 60cm and 36cm. If PQ = 9cm, then AB =(a) 6cm (b) 10cm (c) 15cm (d) 24cm 30. If angle between two radii of a circle is 130° , the angle between the tangents at the ends of radii is – (a)<mark>90</mark>0 (b) <mark>50</mark>0 (c) **70⁰** (d) **40⁰** 31. The distance between two parallel tangents of a circle of radius 3cm is -(a) 6cm (b) 3cm (c) 4.5cm (d)12cm 32. If four sides of quadrilateral ABCD are tangential to a circle, then (a) AC+AD = BD + CD (b) AB + CD = BC + AD(c) AB + CD = AC + BC(d) AC + AD = BC + DB33. If $\sin\theta = \frac{1}{2}$, then the value of $\sin\theta(\sin\theta - \csc\theta)$ is -(c) $\frac{\sqrt{3}}{2}$ (b) $\frac{-3}{4}$ (d) $\frac{-\sqrt{3}}{2}$ 34. If $\sec\theta - \tan\theta = \alpha$ then $\sec\theta + \tan\theta$ is equal to – (b) $\frac{1}{\alpha}$ (c) α (d) none of these 35. cot10°cot75°cot80°cot15° is equal to -(d) cannot be determined (a) 1 (b) 0 (c)-1 36. The value of $(1 + cot\theta - cosec\theta)(1 + tan\theta + sec\theta)$ is – (b) 2 (d) 0 (a) 1 (c) 437. If the height of a vertical pole is $\sqrt{3}$ times the length of its shadow on the ground, then the angle of the elevation of the sun at that time is -(a) **30**⁰ (b) **60**0 (c) 45⁰ (d) **75**⁰ 38. If the area of a circle is 100 sq.cm., the area of a square inscribed in this circle is -(a) $\frac{200}{\pi}$ sq. cm (b) 100π sq.cm (c) $\frac{50}{\pi}$ cm² (d) 50 π sq. cm 39. If the area of the circle is 154 sq. cm , then the perimeter is -(a) 11cm (b) 22cm (c) 44cm (d) 55cm 40. Area of the largest triangle that can be inscribed in a semi circle of radius r units is -(b) $\frac{1}{2}r^2unit^2$ (c) $2r^2unit^2$ (d) r unit (a) $r^2 unit^2$ 41. The volume of a hemisphere is $2425\frac{1}{2}$ cu.cm., then its curved surface area is-(b) 793sq cm (c) 893 sq.cm. (d) 1000 sq.cm. (a) 693 sq cm 42. The number of spherical bullets of radii 1 mm each that can be made out of a cylindrical solid of radius 4 cm and height 6 cm are – (a) 72000 (b) 64000 (c) 96000 (d) none of these 43. Construction of cumulative frequency table is required to determine – (a) Mean (b) Median (c) Mode (d) none of these 44. If mode of 2,5,x, 6, 9, 3, 4, 6, 5, 5 is 5 then x is equal to – (c) 3 (d) none of these (a) 5 (b) 6 $45.If \sum f_i = 17, \sum f_i x_i = 4p + 63$ and mean = 7, then p is equal to -(c) 14 (b) 12 (a) 15 (d) 13 46. A single letter is selected at random from the word "PROBABILITY". The probability that it is a vowel is (a) $\frac{3}{11}$ (b) $\frac{4}{11}$ (c) $\frac{2}{11}$ (d) $\frac{0}{11}$ 47. A number is selected at random from 1 to 30. Probability that it is a prime number is – (a) $\frac{2}{3}$ (b) $\frac{1}{6}$ (c) $\frac{1}{3}$ (d) $\frac{11}{30}$ Que.02. Fill in the blanks :

9. A line intersecting a circle in two distinct points is called a

10. A circle havetangents.

11. A line meets a circle in one point is called ato the circle.

12. If the total number of observations in n, then the class whose cumulative frequency is greater than $\frac{n}{2}$ and nearest to it is called the

nearest to it is called the

- 13. The class with maximum frequency is called
- 14. The median of a statistical data is the value ofobservation
- If the data is arranged in ascending or descending order.
- 15. The graph drawn using the lower class limits and their corresponding cumulative frequency is called a
- 16. The graph drawn using the upper class limits and their corresponding cumulative frequency is called a

Que. 03. True/False Type problems :

- 6. "The product of three consecutive positive integers is divisible by 6ⁿ " Is this statement true or false ? Justify your answer.
- 7. If all the zeroes of cubic polynomial are negative, then all the coefficients and the constant term of the polynomial have the same sign.
- 8. Is the following statement true ? Why? "Two quadrilaterals are similar, if their corresponding angles are equal".
- 9. The value of $\sin\theta + \cos\theta$ is always greater than 1.
- 10. $\tan\theta$ increases faster than $\sin\theta$ as θ increases.

ANSWERS

Que.01.

1. (c)	2. (c)	3.(d)	4.	(c)	5. (b)	6. (d)	7. (c)	8. (b)	9. (c)	10. (b)	11. (b)
12. (b)	13. (c) 14.(a)	15 (b)	16. (c)	17. (b)	18. (b)	19. (b)	20. (b)	21. (b)	22. (b)	23. (c)	24. (c) 25. (a) 26.
(b)	27. (d) 28. (b)	29. (c)	30. (b)	31. (a)	32.(b)	33. (b)	34. (b)	35. (c)	36. (b)	37.(b)	38.(a) 39. (c) 40.
(a)	41. (a) 42. (c)	43.(b)	44.(a)	45.(c)	46. (b)	47. (c)					

Que. 02.

- 9. Secant
- 10. Infinitely many
- 11. Tangent
- 12. Median class
- 13. Modal class
- 14. Middle most
- 15. More than ogive
- 16. Less than ogive

Que. 03.

- 6. True
- 7. True
- 8. False
- 9. False
- 10. True

DAV PS, Chirimiri

Real Numbers

- 1. The decimal expansion of $\frac{63}{72 \times 175}$ is
- a) Terminating b) Non terminating c) Non terminating and repeating d) an irrational number.2. If the HCF and LCM of two numbers are 4 and 9696, then the product of the two numbers is
 - a) 9696 b) 24242 c) 38784 d) 4848.
- 3. For some integer q, every odd integers is of the form a) q b) q + 1 c) 2q d) none of these.

4. 5. 6.	The HCF of two consecutive even numbers is a) 1 b) 2 c) 4 d) 8. Any one of the numbers a, $a+2$, $a+4$, for any positive integer a, is a multiple of The least number that is divisible by all the numbers from 1 to 100 is a) 10 Polynomials	a) 2 b) 3 b) 100 c) 504	c) 5 d) 7. d) 2520.
7.	The value of k for which (-4) is a zero of the polynomial $x^2 - x - (2k + 2)$ is	a) 3 b) 9	c) 6 d) -1.
8.	If α and β are zeroes of the 3 polynomials $f(x) = x^2 + 5x + 8$, then $\alpha + \beta$	is a) 5	b) -5 c) 8 d)
	none of these.	,	, , ,
9. 10.	The number of polynomials having zeroes as -2 and 5 is a) 1 b) 2 c) 3 If the zeroes of the quadratic polynomial $x^2 + kx + k, k \neq 0$, a) cannot both	d) more than 3. be positive	b) cannot both be
11. 12.	A quadratic polynomial can have at most zeroes. a) 0 b) 1 c) 2 A quadratic polynomial whose sum and product of zeroes are -3 and 2 is a) x^2 $x^2 + 2x - 3$ d) $x^2 + 2x + 3$.	d) 3. $-3x + 2$	b) $x^2 + 3x + 2c$)
	Pairs of Linear Equations		
13.	The value of c for which the pairs of equations $cx - y = 2$ and $6x - 2y = 3$ will b) -3 c) -12 d) no value.	have no solution	is a) 3
14.	The pair of equations $x + 2y + 5 = 0$ and $-3x - 6y + 1 = 0$ have a) infinition of a solution and a solution.	nitely many solut	tions b) unique
15.	If $2x + 3y = 0$ and $4x - 3y = 0$, then x + y equals a) 0 b) -1 c)1	d) 2.	
16.	If the pairs of equations $2x + 3y = 5$ and $5x + \frac{15}{2}y = k$ represents two coinciden	t lines, then the v	alue of k is a)
	$-5 ext{ b)} \frac{-25}{2} ext{ c)} \frac{25}{2} ext{ d)} \frac{-5}{2}.$		
17.	The pairs of equations $y = 0$ and $y = -7$ has a) one solution b) two solution d) no solutions.	ns c) infir	nitely many solutions
	Quadratic Equations		
18.	If the equation $x^2 + 4x + k = 0$ has real and distinct roots then a) $k < 4$ k < 4	b) <i>k</i> > 4	c) $k \ge 4$ d)
19.	If $x = 1$ is a common roots of the equations $ax^2 + ax + 3 = 0$ and $x^2 + x + b = -3$ d) $\frac{7}{2}$.) then $ab =$	a) 6 b) 3 c)
20.	If the equations $ax^2 + 2x + a = 0$ has two distinct roots if a) $a = \pm 1$ b) a=	0 c) $a = 0$	0, 1 d) $a = -1, 0.$
21.	If α and β are the roots of the quadratic equation $4x^2 + 3x + 7 = 0$, then $\frac{1}{\alpha} + \frac{1}{\alpha}$	a) $\frac{7}{2}$ a) $\frac{-7}{2}$	c) $\frac{3}{7}$ d) $\frac{-3}{7}$.
22.	Values of k for which the quadratic equation $2x^2 - kx + k = 0$ has equal roots is	a) 0 only	b) 4 c) 8 only
	a) 0, 8. Arithmetic Progression		
23. 24. 25	The 10 th term of the AP 5, 8, 11, 14, Is a)32 b) 35 c) 38, d) 185 In an AP a = -7.2, d = 3.6, an = 7.2 then n is a) 1 b) 3 c) 4 In an AP if $d = -4$, $n = 7$, an $= 4$ then a is a) 6 b) 7 c) 20 d) 28	5 d) 5	
23. 26. 27.	Which term of the AP 21, 42, 63, 84, Is 210. a) 9^{th} b) 10^{th} c) 11^{t} The common difference of an AP in which $a_{12} - a_{14} = 32$ is a) 8 b) -8	^h d) 12^{th} . c) 4 d) -4	
28.	The sum of first 16 terms of the AP $10, 6, 2, \dots$ is a) -320	b)320	c) -352 d) -400
	Coordinate Geometry	,	, ,
29. 30.	If the distance between the points $(2, -2)$ and $(-1, x)$ is 5, one of the value of the x is The mid points of the line segment joining the points $(-2, 8)$ and $(-6, -4)$ is (-4, -2) d) $(4, 2)$	a) -2 b) 2 a) (-4, -6)	c) -1 d)1 b) (2, 6) c)
31. 32.	Find the distance of the point (2, 3) from the X-axis. Find the distance of the point (-6, 8) from the origin.		
33.	Find the perimeter of the triangle whose vertices are $(0, 4)$, $(0, 0)$ and $(3, 0)$.		
34	1(1) $(1, 0)$ $(0, 0)$ $1(1)$ $1(1)$ $(1, 0)$ $(1, 1)$ $(0, 0)$		

- 35. If the angle between two radii of a circle is 130^{0} , then find the angle between the tangents at the ends of the radii.
- 36. If the radii of two concentric circles are 4cm and 5cm, then find the length of each chord of one circle which is tangent to other circle.

Statistics

- 37. Construction of cumulative frequency table is useful in determining the a) mean b) median c) moded) all above
- 38. Write the empirical relationship between mean, median and mode.

Probability

c) $\frac{18}{23}$ d) $\frac{8}{7}$

b)1.004

- 39. Which of the following can be the probability of an event? A)-0.04
- 40. A card is drawn from a well-shuffled deck of 52 cards. What is the probability of getting a face card?
- 41. If an event can not occur, then what is its probability?
- 42. If a die id thrown, what is the probability of getting an odd number less than 3?
- 43. If the probability of occurrence of an event is 0.063, what is the probability of its non-occurrence?

Triangle

44. What will be the length of sides of a rhombus, if its diagonals are 16cm and 12 cm?

45. If
$$\triangle ABC \sim \triangle PQR$$
 with $\frac{BC}{QR} = \frac{1}{3}$, then find $\frac{ar(\triangle PQR)}{ar(\triangle ABC)}$

46. If the areas of two similar triangle are 9 cm^2 and 16 cm² find the ratio of their corresponding sides.

47. Two poles of height 6m and 11 m stands vertically on a plane, if the distance between their feet is 12m, find the distance between their tops.

Trigonometry

- 48. If $\cos A = \frac{4}{5}$, then find the value of $\tan A$.
- 49. If $\cos 9A = \sin A$, $A < 90^{\circ}$, then find the value of $\tan 5A$.
- 50. Find the value of $\sin 45^{\circ} + \cos 45^{\circ}$.

DAV PS, BISHRAMPUR

1. HCF of smallest prim	e number and smallest c	omposite number	IS				
a) 1	b) 2	c) 3	d) 4				
2. If the graph of the po	olynomial does not inters	ect x-axis, then nu	umber of zeroes of th	ne polynomial is:			
a) 1	b) 2	c) 3	d) zero				
3. If a polynomial of dep	gree 5 is divided by a pol	ynomial of degree	3, then the degree c	of the quotient is:			
a) less than 2	b) equal to 2	C) equal to 4	d) more than 4			
4. $(\alpha - \beta), \alpha, (\alpha + \beta)$ are	e zeroes of the polynomi	al $2x^3 - 16x^2 + 15x$	– 2, value of α is				
a) 8	b) 0	c) $\frac{3}{8}$	d) 🖁				
5. The graph of a quadr	atic polynomial is a						
a) Straight line	b) circle	c) spiral	d) pa	rabola			
6. The pair of linear equations 2x + 7y = k, kx + 21y = 18 has infinitely many solutions if:							
a) k = 3	b) k = 6	c) k = 9	d) k = 19				
7. The value of k for wh	ich the pair of linear equ	iations 4x + 6y – 1	= 0 and 2x – ky =7 re	presents parallel lines is			
a) -2	b) 2	c) -3	d) 4				
8. If 1 is root of equation	$ans ax^2 + ax + 3 = 0$ and x^2	² + x + b =0 then ab	equals:				
a) -2	b) 3	c) -3	d) 4				
9. If k, 2k – 1 and 2k + 1	are three consecutive te	rms of an A.P., the	en find the value k is	:			
a) 2	b) 3	c) -3	d) 5				
10. The sum of first 20	odd natural numbers is:						
a) 100	b) 300	c) 400	d) 420				
11. If $\triangle ABC \sim \triangle DEF$ ar	nd BC = 3cm, EF = 4cm, ai	$r(\Delta ABC) = 54 \text{ cm}^2$,	then find $ar(\Delta DEF)$				
12. find the value of a f	or which point P(a/3, 2)	is the mid-point o	f the line segment jo	ining the points Q(-5, 4) and R(-1, 0).			
13. Find the distance of	the point P(x, y) from or	rigin.					

- 14. What is next term of an A.P. $\sqrt{8}$, $\sqrt{18}$, $\sqrt{32}$, ...?
- 15. After how many places $\frac{23}{2^4 \times 5^3}$ terminate?
- 16. Has the rational number $\frac{441}{2^2 \times 5^7 \times 7^2}$ terminating or non-terminating decimal expansion?
- 17. If α and β are of p(x) = 2x² x 6, then find the value of $\frac{1}{\alpha} + \frac{1}{\beta}$.
- 18. If (x + a) is a zero of the polynomial $2x^2 + 3ax + 1$, find the value of a.
- 19. If x = a, y = b is the solution of the pair of equations x y = 2 and x + y = 4 find the values of a and b.
- 20. Write equation of line parallel to i) x-axis ii) y-axis
- 21. In figure, DEIIBC. If AD = 2cm, AB = 5cm and AE = 1.5 cm. Find EC.



- 22. Find the value of k for which the equation $x^2 + 5kx + 16 = 0$ has real and equal roots.
- $px^2 2\sqrt{5}px + 15 = 0$, has two equal roots, then find the value of k. 23. If quadratic equation
- 24. Find eleventh term from the last of the AP : 27, 23, 19, ..., -65.
- 25. The graph of y = p(x) is shown in the figure below. How many zeroes does p(x) have?



26. The point P(1,2) divides the join of A(-2, 1) and B(7,4) in the ratio

a) 1:2 b) 2:1 c) 3:1 d)1:3

- 27. If the tangents PA and PB from a point P to a circle with centre O are inclined to each other at an angle of 80°, then ∠POA is
 - a) 50° b) 60° c) 70° d)80°
- 28. The probability of guessing the correct answer to a certain question in a test is $\frac{x}{12}$. If the probability of

guessing the incorrect answer is $\frac{2}{3}$, then x is equal to

a) 2 b) 3 c) 4 d) 6

29. If $\operatorname{cosec} \theta - \cot \theta = \frac{1}{2}$, then $\cos \theta = \underline{\qquad}$ a) $\frac{5}{3}$ b) $\frac{3}{5}$ c) $\frac{-3}{5}$ d) $\frac{-5}{3}$

30. Value of tan5° x tan5° x tan45° x tan80° x tan85° is

31. If A and B are acute angles such that sin A = cos B, then A + B is

a) 60° b) 30° c) 90° d) 120°

32. The altitude of an equilateral triangle having the length of its side 10cm is

a) $5\sqrt{2}$ cm b) $5\sqrt{3}$ cm c) $6\sqrt{2}$ cm d) $6\sqrt{3}$ cm

33. The distance between two parallel tangents to a circle of radius 7 cm is						
a) 49 cm b) 7 cm c) 14 cm d) 28 cm						
34. The length of the tangent drawn from a point 5 cm away from the centre of a circle of radius 3 cm is						
a) 2 cm b) 4 cm c) 6 cm d) 8 cm						
35. The point on X- axis equidistant from points A(2,4) and B(-4,8) is						
a) (5, 0) b) (-5,0) c) (0,0) d)none of these						
36. If two tangents inclined at an angle of 60° are drawn to a circle of radius 5 cm, then the length of each tangent is						
a) 12 cm b) 10 cm c) 15 cm d) 18 cm						
37. 3 tan θ = 5, then $\frac{3\sin\theta - 5\cos\theta}{3\sin\theta + 5\cos\theta}$ is equal to						
a) $\frac{3}{2}$ b) $\frac{3}{2}$ c) 1 d) 0						
38. Area swept by the minute hand of a clock of length 15 cm in 20 minutes is						
a) 60π b) 65π c) 70π d) 75π						
39. If mode of a data is 45 , mean is 27 then the median is						
40. If θ increases from 0 to $1/2$, then the value of $\cos \theta$						
41. The class in which mode lies is called						
42. The sum of the probabilities of all the elementary events of an experiment is						
43. If three points (x_1, y_1) , (x_2, y_2) , (x_3, y_3) are such that $x_1(y_2-y_3) + x_2(y_3-y_1) + x_3(y_1-y_2) = 0$ then						
these points are						
44. The probability of getting a face card from a pack of cards is						
45. The distance of a point (x,y) from origin is						
46. Rahul made a toy in which he placed 4 cubes of edge 10 cm one above the other. Find the surface area of the resulting cuboid.						
47. Find the area of the quadrant of a circle whose circumference is 20 cm						
48. Find the probability of getting a sum 9 if two dice are thrown simultaneously						
49. A wire is bent in the form of a circle of radius 28 cm . It is rebent in the form of a square . Find the						
length of the side of the square.						
the 'less than ogive' and of the 'more than ogive'?						
DAV PS, PANDAVPARA						
OBJECTIVE TYPE QUESTION:2019-20						
CLASS –X SUBJECT–MATHEMATICS						
1. Which of the following are the root of the quadratic equation $x^2-9x+20=0$ by factorization ?						
$(a) 3 4 \qquad (b) 4 5 \qquad (c) 5 6 \qquad (d) 6 7$						
(a) 0, + (b) + 0 (c) 0, 0 (u) 0, i						

2. if α , β are the root of the equation $x^2+5x+5=0$, then equation whose roots are $\alpha + 1$ and $\beta + 1$ is

(a) $x^2 + 5x - 5 = 0$ (b) $x^2 + 3x + 5 = 0$ (c) $x^2 + 3x + 1 = 0$ (d) none of this

3. which of the following equation has two distinct real root?

(a)
$$2x^2 - 3\sqrt{2x} + \frac{9}{4} = 0$$
 (b) $x^2 + x - 5 = 0$ (c) $x^2 + 3x + 2\sqrt{2} = 0$ (d) $5x^2 - 3x + 1 = 0$
4. $(x^2 + 1)^2 - x^2 = 0$ has

(a) four real root (b) two real root (c) no real root (d) one real root

5. If , β are root of $x^2 + 5x + a = 0$ and $2\alpha + 5\beta = -1$, then a is equal to ______.

(a) -24 (b) +24 (c) 0

(d) none of this

6. α , β are roots of the equation $(a + 1)x^{2} + (2a + 3)x + (3a + 4) = 0$. If α . $\beta = 2$, then $\alpha + \beta =$. (a) -1 (b) +1 (c) 0 (d) None of this 7.An AP consists of 31 terms. If its 16th term is m, then sum of all the terms of this AP is (d) 52 m (a) 16 m (b) 47 m (c) 31 m 8. Two Aps have the same common differences. The first term of one of these is -1 and that of the other is -8 then the difference between their 4th term is (a) -1 (b) - 8(c) 7 (d) -9 9. ABC and BDE are the two equilateral triangles such that D is mid-point of BC. Ratio of the areas of triangle ABC and BDE is (b) 1:4 (a) 2 · 1 (c) 1:2 (d) 4:110. ABL \sim PQR. Are of. ABC = 81 cm², PQR = 121 cm². If AD = 9 cm, PM = ? a) 10 cm b) 11 cm c) 12 cm d) None of these 11. If sin x + cosec x = 2 then sin^{19} x + $cosec^{20}$ x =? (a) 2^{19} (b) 2^{20} (c) 2^{39} (d) 2 12. If $\tan A + \cot A = 4$, then $\tan^4 A + \cot^4 A =$ (a) 194 (b) 196 (c) 0 (d) ∞ 13. tan A = (a) $\frac{\cos A}{\sqrt{1-\cos^2 A}}$ (b) $\frac{\sec A}{\sqrt{1-\sec^2 A}}$ (c) $\frac{\sin A}{\sqrt{1-\sin^2 A}}$ (d) $\frac{1}{\sqrt{1-\sin^2 A}}$ 14. The pair of linear equation 2x + 3y = 5 and 4x + 6y = 10 is a) consistent b) inconsistent c) dependent consistent d) none of these 15. The pair of equations x - a, y - b graphically represents lines which are a) parallel b) intersecting at b, a c) coincide d) intersecting at a, b 16. The numbers of polynomials having zeroes as -2 and 5 isb) 2 c) 3 d) more than 3 a) 1 17. If p(x) = ax2 + bx + c and a+c = b then one of the zero is – a) b/ab) c/a c) –c/a d) -b/a18. The ratio between LCM and HCF of 5, 15, 20 is – a) 9.1 b) 4.3 c) 11.1 d) 12:1 19. If A = 2n + 13, B = n+7, where n is natural number, then HCF of A and B isa) 1 b) 2 c) 3 d) 4 20. If cosec $A - \cot A = 4/5$ then cosec A = ?b) 59/40 a) 47/40 c) 51/40 d) 41/40 21. Zeros of a polynomial can be determined graphically.No. of zeroes of a polynomial is equal to no.of points where the graph of polynomial ----(c) intersects y-axis or intersect x- axis (d) none of these. (a) intersects y-axis (b) intersect x- axis 22. The perimeter of a triangle with vertices (0,4), (0.0) and (3,0) is ______.

23. The centroid of a triangle whose vertices (0,0), (3,0) and (0,4) is _____

24. The next term of the A.P. $\sqrt{18}$, $\sqrt{50}$, $\sqrt{9}$	18	<u></u> .					
25.State true or false that A man is known to	25.State true or false that A man is known to speak truth 3 out of 4 times.He throw a die and a number other than six comes						
up then probability if he reports it is six is	3/4.						
26.State true or false that the decimal expansion of the rational number $\frac{14587}{1250}$ will terminate after one decimal place.							
27. If the product of the Zeroes of $x^2 - 3kx + 3kx $	$2k^2-1$ is 7 , then	value of k are	and				
28. State true or false if $x^6 + 1$ is divided by x	-1,then the rema	inder is 2.					
29 All the black face cards are removed fro	m a pack of 52 p	laying cards.The rema	ining cards are	well shuffled			
and then a card is drawn at random. Find the	e probability of go	etting a					
a)face card.	b)red card	. c)black card.	d)king.			
30.Cards numbered from 11 to 60 are kept i	n box. If a card is	drawn at random from	the box, find	the probability			
that the number on the drawn card is							
a)an odd number. b)a perfe	ct square number	c. c)divisible by 5.	d)a prime member	r less than 20.			
31.All the red face cards are removed from a	ι pack of 52 playi	ng cards. A card is draw	7n at random fr	om the remaining			
cards, after reshuffling them. Find the probab	oility that the dray	wn card is					
a)of red colour.	b)a queen.	c)an ace.	d)a	face card.			
32. In the given figure, AD - AE and \checkmark	ADE - 70⁄-,	BAC = 50, then angle	e BCA –				
	BD	EC					
			Δ.				
				T.			
				E \			
		В	/	\ C			
a)70 o ^o	b)50 °	o c)80					
20 / / / 11							

33. state true or false

Two different dice are tossed together. SO, the probability that the product of the two numbers at the top of the dice is 1/9.

34. Match the column:

2x + 3y - 40	(A)	COINCIDENT LINES
6x + 5y = 10		
2X + 3Y = 40	(B)	INTERSECTING LINES
6X+ 9Y = 50		
2X +3Y = 10	(C)	PARALLEL LINES
4X + 6Y=20		

(b) $1 - B, 2 - A, 3 - C$	
(C) 1-B,2-C, 3-A	(C) 1-C, 2-A, 3- B

34. AP, AQ, AND DC are the tangents of the circle . AB=5 CM , AC= 6CM , BC = 4CM , THEN THE LENGTH OF AP (IN CM) is







36. The diameter of a wheel is 1.26 m . The distance travelled in 500 revolution is

(a) 2670 m	(b) 2880 m	(c) 1980 m (d) 1596	m
37. Area of the trangle fo	ormed by (1, -4) a	nd (3, -2) (-3, 16	s) is	
38.The value of s	$in^2 30^\circ - \cos^2 30^\circ is$			
(a) -1/2	(b) <mark>√3</mark> /2	(c) 3/2	(d)2/3	
39. If 3 $\cot \theta = 2$, t	hen the value of	tan θ		
(a) 2/3	(b) 3/2		(c) 3/ √13	(d) 2/ √13
40. If $\triangle ABC$ is right a	angled at C, then t	the value of cos((A+B)	
(a) 0	(b) 1		(C) ¹ / ₂	(d) √ 3 /2