



DELHI PUBLIC SCHOOL, VIJAYAWADA

HOLIDAY WORK

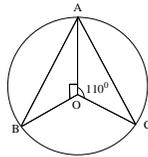
Class : IX

Sub : Maths

SECTION - A

Choose the correct option :

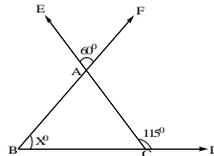
1. If $x = 2 + \sqrt{3}$, then $\left(x + \frac{1}{x}\right)$ equals to _____ ()
 a) $-2\sqrt{3}$ b) 2 c) 4 d) $4 - 2\sqrt{3}$
2. Degree of a zero polynomial is : ()
 a) 0 b) 1 c) any natural number d) not defined
3. If the coordinates of the two points are P(-2, 3) and Q(-3, 5), then (abscissa of P)-
 (ordinate of Q) is ()
 a) (-5) b) -7 c) (-1) d) (-2)
4. Out of 35 students participating in a debate 10 are girls. The probability that winner is a boy is : ()
 a) $\frac{1}{7}$ b) $\frac{3}{7}$ c) $\frac{4}{7}$ d) $\frac{5}{7}$
5. Class mark of class interval 60-70 is..... ()
 a) 60 b) 70 c) 65 d) 75
6. Two cylinders of equal volume have their heights in the ratio 1:2 The ratio of the their radii is ()
 a) $\sqrt{2} : 1$ b) $1 : \sqrt{2}$ c) 1:2 d) 2:1
7. In the adjacent figure of a circle, $\angle BOA = 90^\circ$, $\angle COA = 110^\circ$, then the measure $\angle BAC$ is ____ ()
 a) 60° b) 70° c) 80° d) 90°



8. A quadrilateral whose diagonals are equal and bisect each other at right angles is a ____ ()
 a) Rhombus b) Square c) Trapezium d) Rectangle
9. The graph of the equation of the form $y = mx$ is a line which always passes through ____ ()
 a) (0, m) b) (x, 0) c) (0, y) d) (0, 0)
10. In $\triangle ABC$, if $AB > BC$, then ____ ()
 a) $\angle C < \angle A$ b) $\angle C = \angle A$ c) $\angle C > \angle A$ d) $\angle A = \angle B$

Fill in the blanks

11. The value of $\left(\frac{81}{16}\right)^{\frac{-3}{4}} \times \left(\frac{25}{9}\right)^{\frac{-3}{2}}$ is.....
12. If $p(x) = 2 + \frac{x}{2} + \frac{x^2}{2} - \frac{x^3}{3}$, then $p(-1)$ is
13. The perpendicular distance of the point $P(4, 3)$ from y – axis is _____ and x – axis is _____
14. Sum of the probability of happening and not happening of an event is
15. The mean of the factors of 24 is
16. If the volume of a sphere is divided by its surface area the result is 27. Then the radius of the sphere is
17. The number of circles that can be drawn through three non-collinear points is.....
18. The value of x in the adjacent figure is

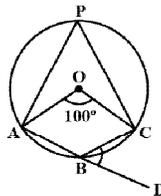


19. Pythagoras was student of
20. Perimeter of an equilateral triangle is 60m, then its area is

SECTION – B

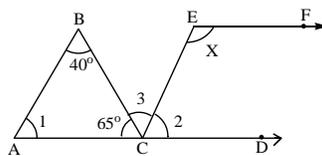
Answer all the questions :

21. Factorise : $3z^3 - 4z^2 - 12z + 16$
22. In the given figure, O is the centre of the circle. Find $\angle CBD$.



23. If $a + b + c = 0$ then prove that $\frac{(b+c)^2}{3bc} + \frac{(c+a)^2}{3ac} + \frac{(a+b)^2}{3ab} = 1$.

24. In the given figure, $AB \parallel CE, CD \parallel EF$. Find the value of x .



25. AB and CD are two parallel chords of a circle whose centre is O and radius is 20cm. If $AB=24$ cm and $CD=32$ cm, find the distance between AB & CD if its given that they lie
 - i) on opposite sides of centre O
 - ii) on the same side of centre O .

26. Two cubes each of edge 10cm are joined end-to-end. Find the surface area and volume of the resulting cuboid.
27. A die is rolled 250 times and its outcomes are recorded as follows:

outcomes	1	2	3	4	5	6
Frequency	40	45	35	38	52	40

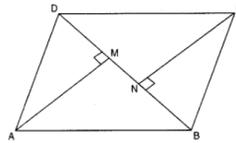
Find the probability of getting i) an even number

ii) a multiple of 3.

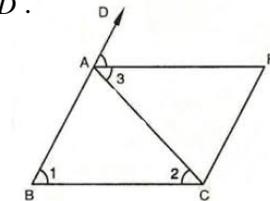
SECTION – C

Answer all the questions :

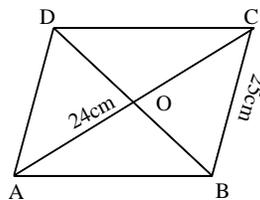
28. Determine a and b , if $\frac{\sqrt{7} + \sqrt{5}}{\sqrt{7} - \sqrt{5}} - \frac{\sqrt{7} - \sqrt{5}}{\sqrt{7} + \sqrt{5}} = a + \sqrt{35} b$.
29. Draw the graph of the equation $2x - 3y = -15$. Find the coordinates of the point where the graph intersects the x-axis.
30. Plot the points in the plane, if its coordinates are given as A(5, 0), B(0, 3), C(7, 2), D(-4, 3), E(-3, -2) and F(3, -2)
31. Show that the bisectors of the angles of a parallelogram encloses a rectangle.
32. In the given figure, ABCD is a quadrilateral. Prove that $\text{ar (quadrilateral ABCD)} = \frac{1}{2} \times \text{BD} \times (\text{AM} + \text{CN})$, where AM and CN are perpendiculars on diagonal BD.



33. Factorise : $9x^2 - 12ax - y^2 - z^2 - 2yz + 4a^2$.
34. In the given figure, $AB = AC$, $CP \parallel BA$ and AP is the bisector of $\angle CAD$.
Prove that i) $\angle PAC = \angle BCA$
ii) ABCP is a parallelogram



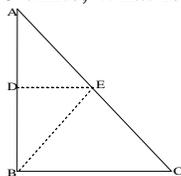
35. ABCD is a rhombus in which $BC = 25$ cm and $AO = 24$ cm. Find the sum of the lengths of the diagonals.



SECTION – D

Answer all the questions :

36. Prove that the line segment joining the mid-points of any two sides of a triangle is parallel to the third side and is equal to half of it. In the given figure, $DE = \frac{3}{4}BC$, $DE \parallel BC$ and the distance between DE and BC is 3 units. If $BC = 6$ units, what is the area of $\triangle BCE$?



37. Find the zeroes of the polynomial $6x^3 - 7x^2 - 11x + 12$, if $x - 1$ is a factor of the polynomial.
38. The runs scored by two teams A and B on the first 60 balls in a cricket match are given below :

Number of balls	Team A	Team B
0 – 6	2	5
6 – 12	1	6
12 – 18	8	2
18 – 24	9	10
24 – 30	4	5
30 – 36	5	6
36 – 42	6	3
42 – 48	10	4
48 – 54	6	8
54 – 60	2	10

Represent the data of both the teams on the same graph by frequency polygon.

39. If $a = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$ and $b = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$, then find the value of $a^2 + b^2 - 5ab$.
40. Construct a triangle ABC in which $\angle B = 60^\circ$, $\angle C = 45^\circ$ and its perimeter is 10cm.

English	<p>Read the passage carefully and answer the questions that follow.</p> <ol style="list-style-type: none"> 1. The role friends play in our lives has become significantly greater than at any other time in our history. Today many of us live and work at great distances from where we were born or grew up and are separated from our original families. The pain we feel when we are away from our families can be significant. 2. The happiness of the individual depends on friendships which form a necessary human connection. It is perfectly normal to need and want friends and depression is more prevalent among those who lack friends. They lack the intimacy and richness friends can bring
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into our lives. Frequently friends reflect similar values to us. Yet these values are often different from the ones we grew up with, they are the values we created for ourselves in our adult lives.

3. Communication skills are fundamental in all friendships. The more friends and acquaintances one has, the greater are one's communication skills. Some call these, people skills.
4. Like watering a plant, we grow our friendships and all our relationships by nurturing them. Friendships need the same attention as other relationships, if they are to continue. These relationships can be delightfully non-judgemental, supportive, understanding and fun.
5. Sometimes a friendship can bring out the positive side that you never show in any other relationship. This may be because the pressure of playing a 'role' (daughter partner or child) is removed. With a friend you are to be yourself and free to change. Of course, you are free to do this in all other relationships as well but in friendships you get to have lots of rehearsals and discussion about changes as you experience them. It is an unconditional experience where you receive as much as you give. You can explain yourself to a friend openly without the fear of hurting a family member.
6. How do friendships grow? The answer is simple. By revealing yourself; being attentive; remembering what is most important to your friend and asking them about it; putting yourself in their position; showing empathy; seeing the world through the eyes of your friend, you will understand the value of friendship. All this means learning to accept a person from a completely different family to your own or perhaps someone from a completely different cultural background. This is the way we learn tolerance. In turn, we gain tolerance and acceptance for our own difference.

1.1 Attempt any eight of the following questions on the basis of the passage you have read :

- i. Why has the role of friends become much more important in our lives?
- ii. How do friendships grow?
- iii. How are people skills important in friendship?
- iv. How do we learn tolerance?
- v. How is tolerance important in friendship?
- vi. Why is depression common among those who lack friends?
- vii. How is maintaining friendship similar to watering plants?
- viii. How is friendship an unconditional experience?
- ix. Find the word in para 1, which means the same as 'remarkable'.

**SECTION – B
(WRITING AND GRAMMAR)**

II Taking the information given below in the input, develop it into a paragraph in about 100-150 words. You can invent your own details.

Hints:

Story 'The Fun They Had' ____ years 2157____no separate buildings____no human teacher ____ no printed books ____ e-books ____ TV screen ____ mechanical teacher ____ slot to put homework____no fun of old school____not same learnings.

Or

Yesterday you had a chance to visit a dreadful sight where a four storeyed building had collapsed. Ten people died instantly and many injured. It was a newly constructed building. Write a diary entry in about 100-150 words expressing your feelings. Also you may highlight possible reasons behind it.

III. Fill in any four of the blanks choosing the most appropriate option from the ones given

	<p>in the box. Write the answers in your answer sheet against the correct blank numbers:1x4=4M</p> <p>Because win-win is (a)principle people can validate (b)their own lives, you will be able to bring most people (c)a realization that they will win more (d)what they want to (e)going for what you both want.</p> <p>a) 1) a 2) the 3) by 4) for b) 1) on 2) in 3) for 4) with c) 1) to 2) for 3) with 4) in d) 1) for 2) with 3) by 4) of e) 1) be 2) with 3) for 4) to</p> <p>IV. In the following passage one word has not been edited in each line. Write the incorrect word along with the correct word. Do <u>any four</u>.</p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%; text-align: center;">Incorrect</th> <th style="width: 25%; text-align: center;">Correct</th> </tr> </thead> <tbody> <tr> <td>I saw the bird flung near twenty feet across the garden. It flutter about at a while, then lay still.</td> <td>eg : <u>near</u></td> <td><u>nearly</u></td> </tr> <tr> <td>The myna remain on the cactus plant and when the snake or the mongoose return to the fight, it very wisely decided not to interfere again!</td> <td>a) _____ b) _____ c) _____ d) _____ e) _____</td> <td>_____</td> </tr> </tbody> </table> <p>NOTE : Answer the above questions on an A4 Sheet and Submit the same to the Teacher.</p>		Incorrect	Correct	I saw the bird flung near twenty feet across the garden. It flutter about at a while, then lay still.	eg : <u>near</u>	<u>nearly</u>	The myna remain on the cactus plant and when the snake or the mongoose return to the fight, it very wisely decided not to interfere again!	a) _____ b) _____ c) _____ d) _____ e) _____	_____
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Telugu	<p>పర్వతానానా రెండు మోడల్ ప్రశ్నపత్రంలో ఉన్న (విభాగం - 'సి' లోని) సంధులు, పర్యాయపదాలు, ప్రకృతి-వికృతులు, వ్యతిరేకపదాలు, జాతీయాలు, సామెతలు నోట్‌బుక్‌లో వ్రాయండి.</p> <p>* ఫైనల్ పరీక్షలకు సిలబస్ మొత్తం బాగా చదవండి.</p>									
HIN	Answer the Question Paper of Pre-Board.									
Science	Answer "One" latest sample Question paper from CBSE website or Old Sample Question Papers.									
Social	Practice the given maps from Ch.5 Natural Vegetation & Wild Life & Ch.6- Population from the Map book.									