Department of Education - Western Province

Year End Evaluation - 2013

Grade 9

669

Mathematics

Name / Index No: ..... **Time : 2 Hours**

* **Answer all the questions 1 to 20 on this paper itself.**
* **Two marks each for questions 1 – 20.**

Part I

01) The land area of a certain village is 9300 perches. Write that land area in scientific notation.

02) A ={M, A, T, H, E, I, C, S}. Find n(A).

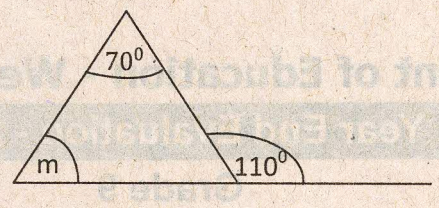
03) Solve. $3x - 7 = 14$

04) The buying price of an article is Rs 500 and its selling price is Rs 550. Find the percentage of the profit gained.

05) Show the order of key operations in the calculator when expressing $\frac{1}{5}$ as a percentage.

					=	20%

06) Find the magnitude of m.



07) Find the actual length represented by 4cm in a scale drawing with the scale 1:5000

08) Simplify. $\frac{2x+3}{5} - \frac{x-4}{5}$

09) Find the probability of getting an even number when tossing an unbiased dice numbered as 1,2,2,3,4,4 on the faces.

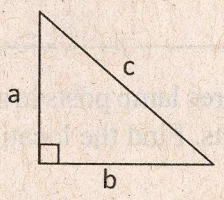
10) Solve the equations and find x.
x+2y =9
3x-2y=11

11) The general term of a number series is n^3. Write the first three terms.

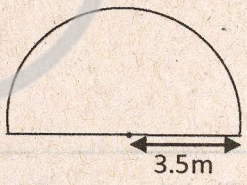
12) Make l as the subject of the formulae $A = \pi r^2 + \pi rl$

13) When a number with one decimal place is rounded off to the nearest whole number, the answer is 5. What are the maximum and minimum values that the number can take?

14) Find the value of a, if b=12cm and c= 15cm.

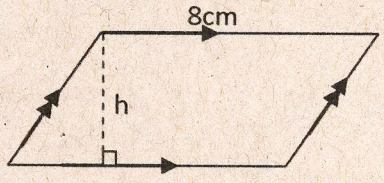


15) The diagram shows a semicircular flower bed of radius 3.5m.
Find the perimeter.



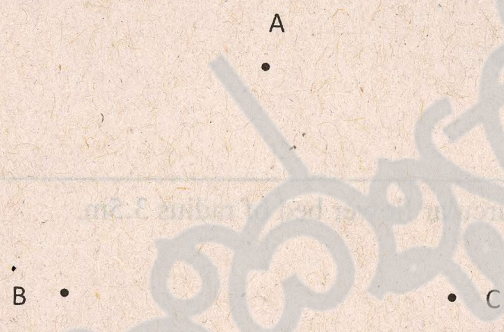
16) Simplify. $\left(1\frac{1}{2}+3\frac{1}{3}\right)\div 5$

17) Find the value of h, if the area of the given parallelogram is $40cm^2$.



18) The magnitude of an interior angle of a regular polygon is 135^0. Find its number of sides.

19) A, B, and C are three lamp posts in a garden. It is needed to prepare a pond, which is equidistant to three lamp posts. Find the location of the pond using the knowledge of loci and show it in a rough diagram.



20) Find the sum of the whole numbers 1 to 100 without adding one by one.

Part II

* **Answer the first question and 4 more questions.**
* **First question carries 16 marks and other questions carry 11 marks each.**
* **Write answers for part II on a separate paper and attach to part I.**

1) Remind the survey report you prepared relevant to the lessons sets and probability. Some sets you identified from the school environment are given below.

A={The members of the prefect board} B={The members of school band}
C={The members of scouting team} D={The members of dancing team}

When listing out above sets, they are as follows,

A={Sunil,Nimal,Kamal,Geetha,Sama} B={Nimal,Kamal,Amal,Geetha,Neetha}
C={Sahan,Nimal,Geetha,Seetha } D={Nimal,Geetha,Amara,Aruni}

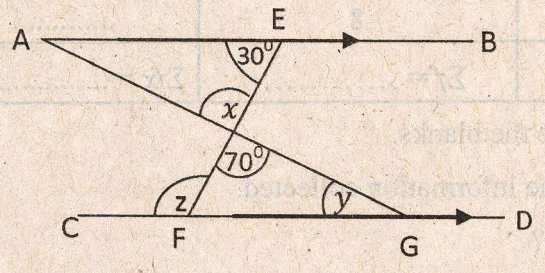
i) Find the number of students who belongs to at least one of the four teams.
ii) Write the set, "students who belongs to all four teams", with elements.
iii) Write two subsets of the set A.
iv) How many students are there not being a prefect but being a member of any other t n
v) List out the elements of the following sets.
a) $A \cap B$ b) $B \cup C$ c) $C' \cap D$
vi) A scholarship will be awarded to a student who belongs to all four teams. Find the probability of obtaining that scholarship by Nimal.

2) a) A trader bought a good for RS. 1200 and marked the price with a profit of 20%. A discount of 5% is offered in each outright purchase (cash payments).
i) Find the marked price.
ii) Find the selling price after the discount.
iii) What is the marked price of an item which is sold for Rs 1425.

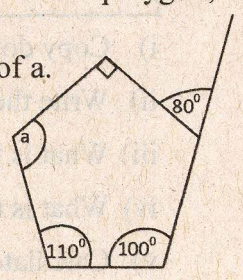
b) i) Simplify. $\frac{a^5 \times b^4}{a^{-3} \times b^2}$

ii) $\log_a b = 4$. Write two suitable values for a and b.

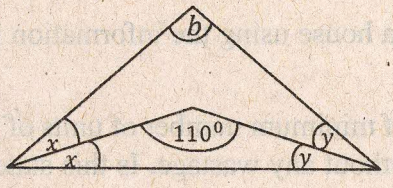
3) a) Find the magnitudes of the angles x, y and z according to the given data in the diagram with reasons.



b) i) Write an equation for the sum of the interior angles of the polygon, in terms of a.
ii) Find the value of a.



c) Find the value of b, according to the data given in the figure.



4) a) $y = -x$, $x = 3$, $y = -2$, $y = 2x-3$, $x+y-1=0$

Observe the above equations and answer the following questions.

i) What is the equation of the straight line passing through the points (3,0),(3,-1) and (3,1)
ii) What is the equation of the straight line which is parallel to x axis.
iii) On which straight line point (0,0) lie on ?
iv) Write two equations of straight lines which are parallel to each other.

b) i) Draw a Cartesian plane numbering -3 to + 3 on both X and Y axis
ii) Shade the area of $x>1$ on it.
iii) Shade the area of ≤ -1 on it.

5) a) Using a straight edge and a pair of compasses, do the constructions given below.
i) Draw a line segment of 7cm and name it as AB
ii) Mark the point C such that $B\hat{A}C = 60^0$ and AC = 5cm.
iii) Complete the triangle ABC.
iv) Find a point that lie on both, the bisector of the angle $B\hat{A}C$ and the locus of a point moving equidistant from A and B. Name it as X

b) There are 6 red pens and 4 blue pens in a box with equal size. A pen is taken out randomly.
i) Find the probability of getting a red pen.
ii) Find the probability of not getting a red pen.

6) An incomplete table to find out the mean number of water units used in a house, using the information of water consumption of a housing scheme in a certain month is given below.

Class Interval (number of units of water)	Mid Value (x)	Frequency (f) (number of houses)	fx
6-10	8	3	24
11-15	13	7	91
16-20	.....	12	.....
21-25	.....	10	.....
26-30	.....	8	.....
		$\Sigma f =$	$\Sigma fx =$ .....

i) Copy down the table and complete the blanks.
ii) Write the number of houses that the information collected.
iii) What is the size of a class interval?
iv) What is the modal class?
v) Calculate the mean number of water units used in a house using the information in the table.
vi) A student says that 80 units of water can be saved, if minimum number of units of water in relevant class interval is used, in each house without any wastage. Is this statement true? Give reasons.