

Mayoor School, Ajmer

Mathematics/VIII/Annual Examination /Thursday/March 5' 2009

(Time allowed : 3hours)

M.M.:100

MNR:135

VIII-A: MNR

VIII-B: VKS

VIII-C: DKS

General Instructions:

- 1) All questions are compulsory.
- 2) The question paper consists of 31 questions divided into four sections A ,B ,C and D. Section A comprises of 10 questions of one mark each, section B comprises of 6 questions of three marks each. Section C comprises of 9 questions of four marks each and section D comprises of 6 questions of 6 marks each.
- 3) All questions in section A are to be answered in one word, one sentence or as per the exact requirement of the question.
- 4) Attempt Q.No. 31 in graph paper.
- 5) Use of calculators is not permitted.

SECTION A

(1 mark each)

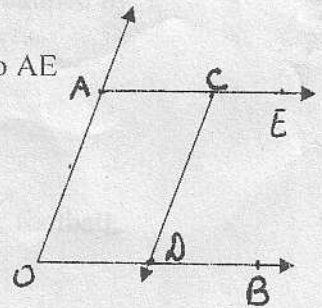
Q.1 Solve for m : $7m - (2m - 8) = 13$

Q.2 Which is greater: $(2)^{-4}$ or $\left[\frac{1}{2}\right]^{-4}$?

Q.3 Which rational number is equal to its reciprocal?

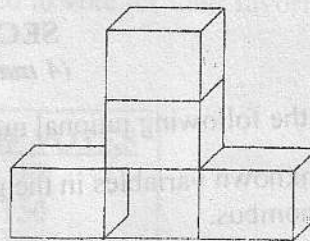
Q.4 Cube of 0.3 is _____

Q.5 In the adjoining figure (1), AO is parallel to CD , OB is parallel to AE and $\angle AOB = 45^\circ$. Find $\angle ECD$.



Fig(1)

Q.6 Draw top view of the given fig(2) having 5 cuboids placed as below



Fig(2)

Q.7 Write the co-ordinates of origin.

Q.8 Find compound interest on Rs. 12600 for 2 years at 10% per annum.

Q.9 Factorize and write the missing factor : $k^2 + 2k - 15 = (k - 3) (\quad)$

Q.10 Simplify:- $-\frac{5}{4}r^2 \times 9rz \times \left[\frac{1}{9}\right] \times rz$

SECTION B

(3 marks each)

Q.11 (a) If $31z79$ is divisible by 9, where z is a digit, what is the possible value of z ?

(b) Find A , B and C in :

$$\begin{array}{r} A \\ + B \\ \hline C \end{array}$$

$$\begin{array}{r} C \\ C \\ \hline \end{array}$$

Q.12 Factorize (i) $x^2 - (y-2)^2$ (ii) $z^2 - z - 2$

Q.13 Simplify $(2.4 \times 10^4) \times (5 \times 10^7)$ and write the product in standard form:

Q.14 Find the area of figure (3), where ABG is a right triangle, $BCFG$ is a square and $CFED$ is a trapezium.

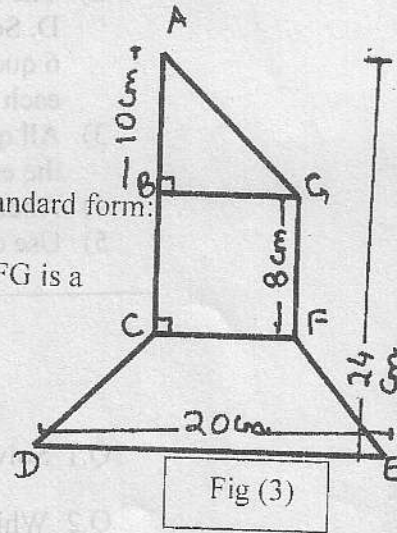


Fig (3)

Q.15 Find the least number which must be added to 3475 to obtain a perfect square.

Q.16 In figure (4), $LORD$ and $LUCK$ both are parallelograms. If $\angle C = 60^\circ$, find $\angle R$, $\angle U$ and $\angle LDR$.

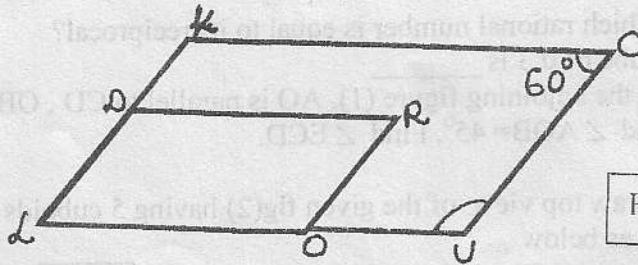


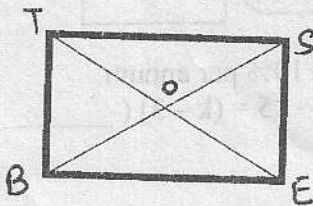
Fig (4)

SECTION C

(4 marks each)

Q.17 Represent the following rational numbers on one number line: $\frac{1}{8}, \frac{1}{4}, \frac{1}{2}, \frac{3}{4}$

Q.18 Find the unknown variables in the given figure (5) where $BEST$ is a rectangle and $PRAY$ is a rhombus.



$ET = 3X + 1$
 $BS = 2X + 4$

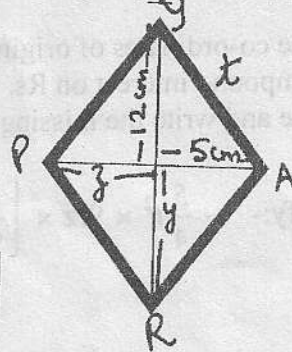


Figure (5)

Q.19 The students of class VIII of a school donated Rs. 14161 in all, for Prime Minister's National relief Fund. Each student donated as many rupees as the number of students in the class. Find the number of students in the class.

Q.20 Volume of a cube is 175616 cubic cm. find the side of the cube.

Q.21 A pair of shoes with marked price Rs. 1200 was sold to a customer for Rs. 1,000. Find the rate of discount allowed for the shoes.

Q.22 Calculate the values using suitable identity

(a) $\frac{6.5^2 - 5.3^2}{6.5 + 5.3}$ (b) 169×151

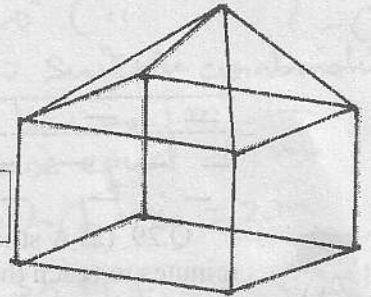
Q.23 State and prove Euler's formula for figure (6) given below.

Q.24 Find 'p' so that $(-7)^{p+1} \times (-7)^5 = (-7)^2$

Q.25 Solve the following algebraic expressions :

(i) $(14pq + 35pqr) \div 7pq$ (ii) $(15xy - 6x - 2 + 5y) \div (5y - 2)$

Fig (6)



SECTION D

(6 marks each)

Q.26 (a) The sum of the digits of a two digit number is 12. The number obtained by interchanging the digit exceeds the original number by 18. Find the numbers.

(b) Solve for y and check your answer:

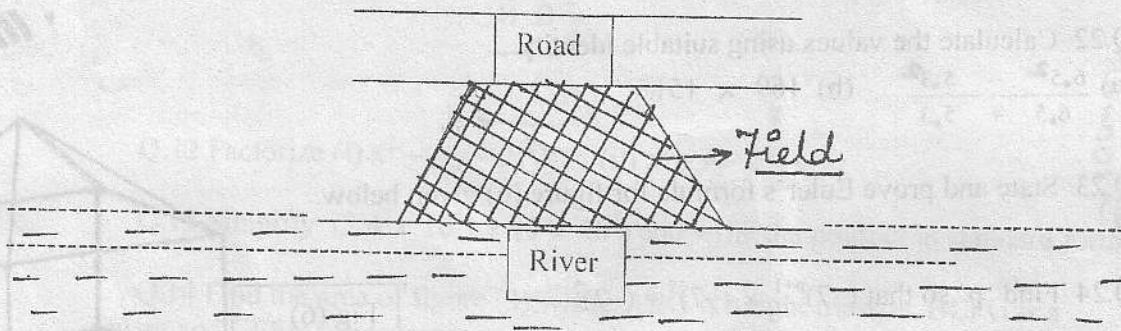
$$\frac{7y - 1}{9} = 3$$

Q.27 A group of 360 students were asked to vote for their favorite games: football, hockey, cricket and rugby.

Draw a pie chart for the given information.

GAME	NO.OF VOTES
HOCKEY:	30
CRICKET:	150
RUGBY :	120
FOOTBALL:	60

Q.28 Ansh wants to buy a trapezium shaped field. Its side along the river is parallel to side of the road, if side along the river is thrice the side along the road, area of field along the river is 10000m^2 and perpendicular distance the two parallel sides is 100m . Find the length of the side along the river.



Q.29 (a) A student cycles to school at an average speed of 12 km/hr . It takes him 20 minutes to reach the school. If he cycles at an average speed of 16 km/hr , how much time will he take to reach the school?



(b) A girl reads 20 pages of a book in 1 hour 20 minutes with a uniform speed. How much will she take to read 36 pages of the same book with the same speed?



Q.30 (a) Construct a quadrilateral $PLAN$ where $PL = 4\text{ cm}$, $LA = 6.5\text{ cm}$, $\angle P = 90^\circ$, $\angle A = 110^\circ$, $\angle N = 85^\circ$.

(b) Construct a rectangle $OKAY$, $OK = 7\text{ cm}$. and $KA = 5\text{ cm}$.

Q.31 Draw a linear graph to show the exchange rate of US Dollars in terms of rupees.

US Dollars	1	2	3	4
Rupees	50	100	150	200



From the graph. find the value of:

- 7 US Dollars in terms of Rupees
- Rs. 400 in terms of US Dollars.