

Maharashtra High School Sihora
FIRST UNIT TEST (2010-11)
MATHS
ALGEBRA

CLASS:-X

TOTAL MARKS: 30

1. Attempt any *six* of the following:

12

- (i) $16x^2 - 25 = 0$
- (ii) Find the LCM of $14x^2$; $35x^3y$
- (iii) If $x = 2$, $y = 3$ is the solution of $2x + ky = 13$, find k .
- (iv) Convert the decimal integer 50_{10} to its binary equivalent.
- (v) Find the 7th term of A.P. 7, 11, 15, 19....
- (vi) A die is thrown. A is event that a number divisible by 2 comes up. Write down the sample S and the event A.
- (vii) Simplify: $\frac{x-8}{2x+7} + \frac{3x+13}{2x+7}$
- (viii) If $3m+5n = 6$ and $5m+3n = 26$ find the value of $m - n$

2. Solve any *six* of following sub-questions:

18

- (i) Solve the following simultaneous equation
 $5m + 8n = 9$; $2m + 3n = 4$
- (ii) For an A.P. $S_{10} = 210$, $a = 3$, find d .

- (iii) Find the HCF of the following polynomial: $a^3 - 27$; $2a^2 - 12a + 18$.
- (iv) Add the following binary numbers, Verify your answer in the Decimal number system:
 $11001_2 + 1011_2$.
- (v) Solve the quadratic equation by formula method $x^2 - 4x + 1 = 0$
- (vi) Two coins are tossed. A is the event that at least one head turns up.
Find the probability of event A.
- (vii) If the third and the sixth terms of an A.P. are 7 and 13
Respectively. Find a, d, and write the A.P.

Subject Teacher: S. A. Sharnagat

Maharashtra High School Sihora

FIRST UNIT TEST (2010-11)

CLASS X

GEOMETRY

TOTAL MARKS: 30

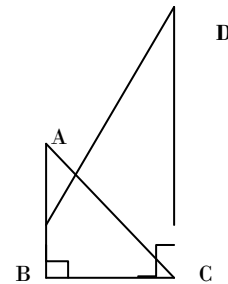
1. Attempt all *seven* of the following

14

- (i) In figure, $\angle ABC = \angle DCB = 90^\circ$

$AB = 10$ and $DC = 15$

Find the value of $\frac{A(\triangle ABC)}{A(\triangle DCB)}$

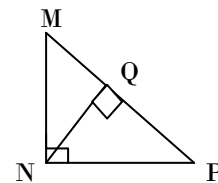


- (ii) In $\triangle MNP$, $\angle MNP = 90^\circ$

seg NQ \perp *side MP*.

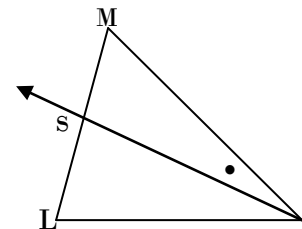
$MQ = 4\text{cm}$, $QP = 9\text{cm}$.

Find NQ .



- (iii) The ratio of areas of two triangles with the same base is 2:3. If the height of smaller triangle is 8cm, Find the height of other triangle.

- (iv) In figure, in $\triangle LMN$,
ray NS is bisector of $\angle LNM$.
 $LS = 9$, $SM = 6$, $MN = 14$ Find LN



N

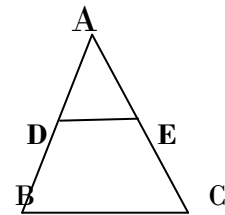
- (v) In a right-angle triangle, two sides making the right angle are 6cm and 8cm. find the hypotenuse.
- (vi) Find the Diagonal of a square whose side is 8cm.
- (vii) If $a=5$, $b=9$, $c=11$, determine whether ΔABC is right angled triangle or not.

2. Solve all four of following sub-questions :

16

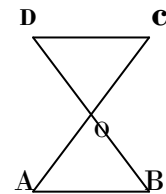
- (i) In ΔPQR , seg PM is median. $PM=9$ and $PQ^2 + PR^2 = 290$
Find QR .

- (ii) In ΔABC , seg $DE \parallel$ side BC .
 $\frac{DE}{BC} = \frac{2}{3}$. $A(\Delta ABC) = 32 \text{ cm}^2$
Find $A(\square BCED)$.



- (iii) ΔDEF is an equilateral triangle
Seg $DP \perp$ side EF .
Prove that $DP^2 = 3EP^2$

- (iv) In the figure, seg $AB \parallel$ side DC .
Seg AC and seg BD intersect at O .
Show that $\frac{OA}{OC} = \frac{OB}{OD}$.



Subject Teacher: S. A.

Sharnagat

Maharashtra High School Sihora**FIRST UNIT TEST (2010-11)****CLASS:-IX (C)****SUBJECT: - ALGEBRA****TOTAL MARKS: 30****1. Attempt all of the following****(A) Which of the following collection are sets?****6**

- (i) The collection of prime numbers.
- (ii) The collection of good teacher.
- (iii) The collection of girls in your class.
- (iv) Express the surds in the simplest form (i) $\sqrt{27}$
- (v) Simplify $3\sqrt{3} + 10\sqrt{3}$
- (vi) Find the product $\sqrt{3} \times \sqrt{7}$

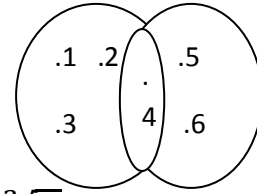
(B) Solve the following.**12**

- (i) Write the union of pair of sets $A = \{2, 3, 5, 6, 7\}$, $B = \{4, 5, 7, 8\}$
- (ii) Find the intersection of pair of sets
 $A = \{1, 2, 4, 5, 7\}$, $B = \{2, 3, 4, 8\}$
- (iii) If $A = \{1, 2, 3, 4\}$, $B = \{4, 5, 6\}$ find (i) $A - B$ (ii) $B - C$
- (iv) Find the values of (i) $|11 - 25|$ (ii) $|9| + |-9|$
- (v) State the order of (i) $\sqrt{101}$ (ii) $\sqrt[3]{5}$
- (vi) Solve $\sqrt{98} \div \sqrt{2}$

2. Solve the following.**12**

- (A) Let A and B be two sets such that $n(A) = 5$, $n(A \cup B) = 9$,
 $n(A \cap B) = 2$ Find $n(B)$.

(B) Observe the figure:



Find $n(A)$, $n(B)$, $n(A \cap B)$

(C) Find the product of $\sqrt[3]{3} \times \sqrt{3} \times \sqrt[3]{2}$

(D) Rationalize the denominator $\frac{3}{\sqrt{6}-\sqrt{7}}$

Subject Teacher: S. A.

Sharnagat

Maharashtra High School Sihora

First Test series (2010-11)

CLASS:-X

SUBJECT: - Algebra

TOTAL MARKS: 60

General Instructions:

- All questions are compulsory.
- Use of calculator is not permitted.

1. Attempt any six of the following:

12

- i) $16x^2 - 25 = 0$
- ii) Find the LCM of $14x^2$; $35x^3y$
- iii) If $x = 2$, $y = 3$ is the solution of $2x + ky = 13$, find k .
- iv) Convert the decimal integer 50_{10} to its binary equivalent.
- v) Find the 7th term of A.P. 7, 11, 15, 19....
- vi) A die is thrown. A is event that a number divisible by 2 comes up.

Write down the sample S and the event A.

- vii) Simplify: $\frac{x-8}{2x+7} + \frac{3x+13}{2x+7}$
- viii) If $3m+5n = 6$ and $5m+3n = 26$ find the value of $m - n$

2. solve any four of the following sub –question

12

- i) If (7,a) is the point lying on the graph of the equation $2x + 3y = 20$
then what is the value of a ?
- ii) A musician paid Rs 9,360 for a music system. If the rate of central sales tax is 4 % ,find the list price of the music system when no discount is given.
- iii) Find the HCF and LCM of the following polynomials.
 m^2-8m+7 ; $m^2- 12m+35$.
- iv) Find the mean using the assumed mean method .

Class interval	10-16	16-22	22-28	28-34	34-40
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Frequency	1	10	5	3	6
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v) Find the sum of the first 100 terms of an AP whose first term is 5 and the 100th term is 401 .

vi) solve $11101_2 - 11110_2$

3. Solve any four of the following sub-question.

12

i) solve the quadratic equation by factorization method. $\frac{1}{4}(x+3)^2=25$.

ii) convert the binary integer 110011_2 to its decimal equivalent.

iii) A die is thrown .find the probability that, (a) an odd number comes up,

b) a perfect square comes up, c) a multiple of 7 comes up .

iv) If the HCF of polynomials $(x-1)(x^2+x+a)$ and $(x-2)(x^2+x+b)$ is $(x-1)(x-2)$

find a and b.

v) A bicycle is sold for Rs 1800 cash or Rs 900 cash down payment together with Rs 915 to be paid after two months. Find the rate of interest.

vi) Amit purchases an article for Rs 3600 and sells it to Bakul for Rs 4800 .Bakul ,in turn ,sells

the article to Chandrakant for Rs 5400 . find M –VAT at the rate of 12.5 % levied on Amit and

Bakul.

4. solve any three of the following sub-questions

12

i) sum of age of mother and her daughter is 60 years . After 15 years mother `s age will be to twice as that of her daughter 's age at that time . find their present ages .

ii) The number of students admitted in different faculties of a collage are given below .

Faculty	Science	Commerce	Arts	Law	Home science
No.of student	1000	1200	650	450	300

Draw a pie diagram to illustrate the information .

iii) The sum of a number and its reciprocal is $\frac{41}{20}$. Find the number.

iv) If for an AP, $S_{31} = 186$, find t_{16} .

v) Smt. Archana has her gross annual income for the financial year 2006-07 of Rs.148000 and her saving are as follows: (i) LIC- Rs 4800 p.a. (ii) PLI- Rs 2750 p.a. Find the net income tax to be paid by Archana for financial year 2006-07.

vi) $\left[\frac{2y^2+3}{y-1} + \frac{y+3}{y+1} \right] \div \frac{2y}{y^2-1}$

5) solve the three of the following sub-question.

12

i) Draw the graphs of the lines $x + y = -2$ and $2x - y + 4 = 0$ on the same co-ordinate system. of the point of intersection of the two lines.

ii) A sum of Rs.21,000 borrowed is to be paid back in two years by two equal annul instalments at a compound interest of 10% p.a. find the annual instalment.

iii) the number of hours spent by a school boy on different activities in a working day is given below

Activity	sleep	school	play	Homework	Others
No. of hours	8	7	2	4	3

Represent the information in the form of a pie diagram.

iv) A person invested Rs 8,160 in share of face value Rs 10 each at Rs 80 market price and brokerage at 2% was paid. Company declares a dividend of 40% on them. find his dividend.

v) The digit number are formed from the digits 0, 1,2,3,4 without repeating the digit. find the

Probability of the event that (i) the no. formed is an even no. (ii) the no formed is greater

that 40.

vi) A typewriter is available for Rs5,820 cash or Rs 1,260 cash down payment follow by three

Equal monthly instalments. Under plan the rate of interest is 16 % p.a.Find the monthly Instalment.

Maharashtra High School Sihora

FIRST UNIT TEST (2011-12)

CLASS:-X

SUBJECT: - ALGEBRA

TOTAL MARKS: 30

1. A) Attempt all *Three* of the following **3**

1) Find the next two terms of given sequence

2,4,6,8,.....

ii) Write the equation $2 - 3x - x^2 = 0$ in the form $ax^2 + bx + c = 0$

iii) Which of following sequence are A.P justify 4,3,2,1,.....

B) Solve all Four of the following sub-question **8**

i) $16x^2 - 25 = 0$

ii) Find the 7th term of A.P. 7, 11, 15, 19

iii) Find k, if the roots of quadratic equation $kx^2 - 7x + 12 = 0$

iv) Find the twenty fifth term of A.P. 12,16,20,24,.....

2. A) Solve all Three of the following sub-question **6**

i) Solve $3x^2 - 11x + 6 = 0$

ii) Find the sum of first n odd numbers 1,3,5,.....101

B) Solve the following sub-question **8**

i) Mary got a job with a starting salary of Rs.15000 per month. She will get incentive of Rs. 100 per month. What will be her salary after 20 month ?

ii) Solve the Quadratic equation by using formula method

$$m^2 - 3m - 10 = 0$$

3. Solve $x^4 - 3x^2 + 2 = 0$ **5**

Subject Teacher: S. A. Sharnagat

Maharashtra High School Sihora

FIRST UNIT TEST (2011-12)

CLASS:-X

SUBJECT: - GEOMETRY

TOTAL MARKS: 30

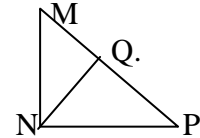
1. A) Attempt all Three of the following 3

- i) $AD^2 = BD \times DC$ if $BD = 9$ and $DC = 4$ Find AD ?
- ii) State triangle is right-angled triangle: $a = 3, b = 4, c = 5$
- iii) Find diagonal of square if side is 5 cm.

B) Solve all Four of the following sub-question 8

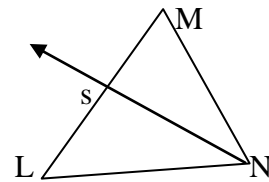
i) If $\Delta ABC \sim \Delta DEF$ and $AB = 2.4$ cm, $DE = 1.6$ cm find $\frac{A(\Delta ABC)}{A(\Delta DEF)}$

ii) In ΔMNP , $\angle MNP = 90^\circ$
 seg $NQ \perp$ side MP . $MQ = 4$ cm, $QP = 9$ cm
 Find NQ .



iv) In a right-angle triangle, two sides making the right a 6 cm and 8 cm. find the hypotenuse

v) In figure, in ΔLMN ,
 ray NS is bisector of $\angle LNM$.
 $LS = 9, SM = 6, MN = 14$ Find LN

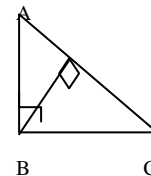


2. A) Solve all Four of the following sub-question 6

i) In figure, $\angle ABC = \angle DCB = 90^\circ$

$AB = 10$ and $DC = 15$

Find the value of $\frac{A(\Delta ABC)}{A(\Delta DCB)}$

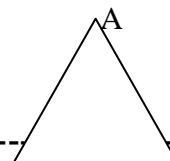


ii) The ratio of areas of two triangles with the same base is 2:3. If the height of smaller triangle is 8 cm, Find the height of other triangle..

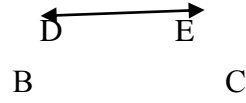
B) Solve all four of following sub-questions : 8

i) In ΔPQR , seg PM is median. $PM = 9$ and $PQ^2 + PR^2 = 290$ Find QR .

ii) In ΔABC , seg $DE \parallel$ side BC .



$\frac{DE}{BC} = \frac{2}{3}$. $A(\Delta ABC) = 32 \text{ cm}^2$
Find $A(\square BCED)$.



3. Prove that

5

ΔDEF is an equilateral triangle, Seg $DP \perp$ side EF .
Prove that $DP^2 = 3EP^2$

Subject Teacher: S. A. Sharnagat

Maharashtra High School Sihora

FIRST UNIT TEST (2011-12)

CLASS:-IX

SUBJECT: - ALGEBRA

TOTAL MARKS: 30

1. A) Attempt all of the following

Which of the following collection are sets?

6

- i) The collection of prime numbers.
- ii) The collection of good teacher.
- iii) The collection of girls in your class.
- iv) Express the surds in the simplest form (i) $\sqrt{27}$
- v) Simplify $3\sqrt{3} + 10\sqrt{3}$
- vi) Find the product $\sqrt{3} \times \sqrt{7}$

2. Solve the following.

12

- i) Write the union of pair of sets $A = \{2, 3, 5, 6, 7\}$, $B = \{4, 5, 7, 8\}$
- ii) Find the intersection of pair of sets
 $A = \{1, 2, 4, 5, 7\}$, $B = \{2, 3, 4, 8\}$
- iii) If $A = \{1, 2, 3, 4\}$, $B = \{4, 5, 6\}$ find (i) $A - B$ (ii) $B - C$
- iv) Find the values of (i) $|11 - 25|$ (ii) $|9| + |-9|$
- v) State the order of (i) $\sqrt{101}$ (ii) $\sqrt[3]{5}$
- vi) Solve $\sqrt{98} \div \sqrt{2}$

3. Solve the following.

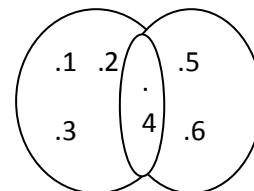
12

- i) Let A and B be two sets such that $n(A) = 5$, $n(A \cup B) = 9$,

$$n(A \cap B) = 2 \text{ Find } n(B).$$

- ii) Observe the figure:

$$\text{Find } n(A), n(B), n(A \cap B)$$



- iii) Find the product of $\sqrt[3]{3} \times \sqrt{3} \times \sqrt[3]{2}$

- iv) Rationalize the denominator $\frac{3}{\sqrt{6} - \sqrt{7}}$

Subject Teacher: S. A. Sharnagat

Maharashtra High School Sihora

FIRST UNIT TEST (2011-12)

CLASS:-IX

SUBJECT: - GEOMETRY

TOTAL MARKS: 30

1. A) Fill the blank space given below. 3

- i) If the lines in sameplane, then theyare called_____
- ii) When a line intersecta plane but does notlie in it,
their intersection is _____
- iii) There is _____ line passing throughtwo distinct points.

B) Solve all Four of the following sub-question 8

- i) Find measures of supplementary angle of 60°
- ii) Find measures of complementary angle of 58°
- iii) The co-ordinates of two points P and Q are 7 and 10 respectively Find d(P,Q).
- iv) When A-B-C , AC= 12, BC=7.5 Find AB.

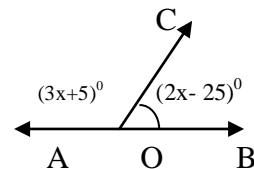
2. A) Solve all Four of the following sub-question 6

- i) Find the complementary angle of $48^{\circ}36'45''$
- ii) Find measures of supplementary angle of $124^{\circ}28'40''$

B) Solve all four of following sub-questions : 8

- i) If transversal intersects two parallel lines such that the ratio between their interior angles is 2:7 then find the measure of greater angle

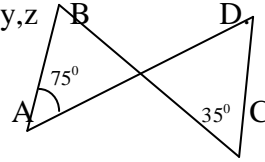
- ii) From fig. Find $m\angle AOC$ and $\angle BOC$.



3. From fig. $AB \parallel CD$

5

$\angle A = 75^\circ$ and $\angle C = 35^\circ$ Find the value of x, y, z



Subject Teacher: S. A. Sharnagat

Maharashtra High School Sihora

FIRST SEMESTER EXAMINATION (2011-12)

CLASS:-VIII 'C'

SUBJECT: - MATHS

TOTAL MARKS: 50

Que.1 Solve all Four of the following sub-question 4

- i) Find the value of 4^2
- ii) Solve $x + 1 = 6$
- iii) If radius of circle is 7cm .find diameter of circle?
- iv) Write in symbol, m variate directly with n.

Que.2 Solve all six of the following sub-question 12

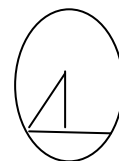
- i) The radius of circle is 7cm.find the area of circle.
- ii) If the sides of right angled triangle are 16cm and 8cm respectively, What is its area?
- iii) The number 6,x,10,15 are in proportion .Find the value of x
- iv) Expand $(x + 5)^2$
- v) Solve $2x - 5 = 1$
- vi) Calculate area of rectangle if its length & breadth are 5cm & 4cm respectively.

Que.3 Solve all Four of the following sub-question 12

- i) Use formula to multiply $(p + 4)(p + 7)$
- ii) What will be area of an equilateral triangle of side 12cm.
- iii) $p \propto q$ when p is 12 the value of q is 18 Find K & write the equation of variation.
- iv) Draw the line segment of length 5cm divide it into three congruent part.

Que.4 Solve all Three of the following sub-question 12

- i) Solve $\frac{2x+1}{3x-2} = \frac{5}{9}$
- ii) What is the cost of fencing of circular place of radius 7.7m with three rounds of wire , If the cost of wire is Rs.50 per metre.
- iii) A chord of circle is 30 cm its distance from centre is 8cm find radius of circle



Que.5 Solve all Four of the following sub-question 10

- i) The measures of opposite angle of parallelogram $(3x - 2)^0$ and $(50 - x)^0$ respectively. Find the measure of each angle of parallelogram.
- ii) If the sides of a triangle are 25cm, 39cm & 56cm. What is the area of this triangle?

Subject Teacher: S. A. Sharnagat