# SUMMATIVE ASSESSMENT - II, 2116-17 MATHEMATICS Class - IX [92UGD37]

1. For the graph of the linear equation $ax + by + c = 0$ to pass through origin which of three a, b and c is necessarily zero,

2. Arvind and Vinod have some erasers. Arvind said to Vinod you give me 10 erasures, i will have twice the erasers left with you. Represent this statement as linear equitation in two variables.

3. Construct an angle of measure 150^0, Using rullar and compass.

4. If the total surface area of a cub, is 36 cm2, then find its volume?

SECTION-B Question numbers 5 to 10 carry two marks each.

5. In the given figure, ABCD is a cylic quadrilateral with LBAD = 100^0 ,<ADC = 85^0 , Find <ABC = x and <BCD = y then find x and y

6. In the figure, PQRS is parallelogram with PQ = 8 cm and ar(ΔPXQ) = 32 crn2. Find the altitude of PQRS and hence its area.
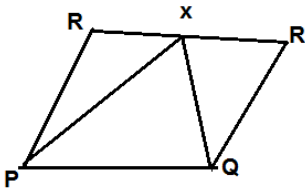

7. In the given figure, ABC is a triangle in which <BAC = 30^0 show that BC is equal to the radius of the circumcircle of ΔABC whose centre is O.
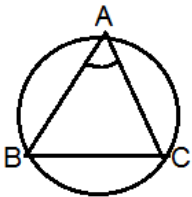
8. Determine the volume of a conical vessel having radius 5cm and slant height 13cm? (use $\pi = 3.14$)

9. A coin is tossed 850 times with the head turning up 154 times. If coin is tossed again find the probability of getting (i) Head (ii) Tail

10. Eleven bags of wheat âour, each marked 5 kg, actually contained the following weights of flour (in kg):

4.97 5.05 5.08 5.03 5.00 5.06 5.08 4.98 5.04 5.07 5.00 Find the probability that any of these bag

Find the probability that any of these bags chosen at random contains (i) more than 5 kg flour (ii) at most 5.03 kg flour

SECTION – C . Question numbers 11 to 20 carry three met 3 each

11. Write $x + 2 = 0$ in the form of $ax + by + c = 0$ Also write the values of a, b and c. Draw its graph

12. Write the equation $4x = 6(1- y) + 3x$, in the form $ax + by = c$ and also find the coordinate of the points where its graph cuts the two axes.

13. Draw a line segment AB =12 cm, and by ruler and compass obtain a line segment of length 3/5 AB

14. In the given figure, a diameter PQ Of a circle bisects the chord RS at the point O. If PS is parallel to RQ, prove that RS is also a diameter of the circle.

15. If QS and PR are diagonals of quadrilateral PQRS intersect at O such that ar (APOQ) =ar (ASOR). Show that PS II RQ.
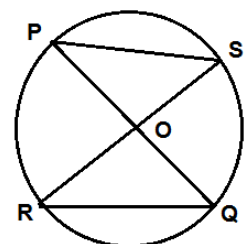
16. The water for a industry is stored in a hemispherical tank of internal diameter 14m. The tank contains 40 kilolitres of water. Water is pumped into the tank to fill it to full capacity. Calculate the volume of water pumped into the tank.

17.Convert the following frequency distribution into a continuous grouped frequency table

Class - Interval	150 -153	154 - 157	158 - 161	162 -165	166 -169	170 - 173
frequency	7	7	15	10	5	6

In which intervals would 153.5 and 167.5 be included ?

18. There are 20 students in a drama class, the mean age of 12 students is t8 years and the mean age of remaining 8 students is 23 yrs. find the mean age of all students in a drama class.

SECTION-D Question numbers 21 to 31 carry four marks each.

19. Draw the graphs of the following equations on the .me graph sheet : x= 4, x = 2, y=1, y – 3 = 0. Also, find the area enclosed between these lines.

20. Fixed charge in a taxi is x and charges per km is Rs. y. If fare for 10 km is Rs.70, then write the given data in form of a linear equation in two variables. Also, represent it graphically. What will be fixed charges, if charges per km are Rs.5?

21.Construct the ABC, given that BC = 6.5 cm,<B = 60^0 and AB + AC = 10 cm

22.Prove that two parallelograms on the same base and between the same parallels are equal in area.

23. Construct a $\triangle$ABC in which BC = 6 cm, <B=45^0 and AB— AC = 2 cm.

24. In Uttarakhand, army made 50 conical tents of height 10 m and base radius 24 m for rehabilitating flood victims. If the cost of canvas is Rs.140/m, then find the total cost of making the tents. What value is depicted by our army from it

25.The sum of radius of the base and height of a solid cylinder is 37m. If the total surface area of the cylinder is 1628 rn ; find the curved surface area and volume of the cylinder.

26. A cylindrical milk steel storage tank has 42 m as diameter and is 4.5 rn high. (a) Find quantity of milk, it can contain. (b) How much steel sheet was actually used to make this closed tank if 1/7 of steel sheet was wasted in making the tank?

27. The following table gives the information about the number of hours spent on working at the computer by 70 people:

Hours	0-2	2-4	6-8	8-10
No. of People	12	25	10	7

What is the probability that the person chosen at random spends on computer (a) 4 hours or more, but less than 8 hours (b) less than 2 hours (c) at least 6 hours

28. Given grouped frequency distribution shows the daily pocket expenses of 125 students of a 4 school. Draw a histogram to re resent the data

Pocket expenses (In Rs.)	10-20	20-30	30-50	50-60	60-90	90-100	Total
No. of students	15	15	40	25	30	5	125

SECTION - E (Open Text)

Theme: Solving Mystery of messed up fields.

29. In Dorjee's field if adjacent angles are in the ratio 3:5, find all the angles of his field.

30 In Uttapa's field ABCD, AX and CY are bisectors of angle A and C respectively, prove that AX II CY.

31 In Uttapa's field ABCD, X & Y are mid-points of sides AB and DC respectively. Show that AXCY is a parallelogram.