

ST. ARNOLD'S CENTRAL SCHOOL, PUNE
PERIODIC TEST - 3, 2018-19
SUBJECT: MATHEMATICS

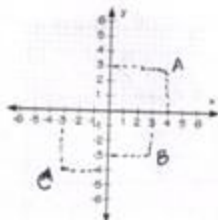
STD: IX

M.M:50

SECTION - A

Question numbers 1 to 4 carry 1 mark each.

1. In the following figure, which point has its abscissa as -3 ? (1)



2. Write the class mark of an interval $90 - 120$. (1)
3. Find the mode of the data $15, 14, 19, 20, 14, 15, 16, 14, 15, 18, 14, 19, 15, 17, 15$. (1)
4. A coin is tossed 100 times and head appeared 64 times. Find the probability of getting a tail. (1)

SECTION - B

Question numbers 5 to 8 carry 2 marks each.

5. A point lies on x-axis at a distance of 9 units from y-axis. What are its coordinates? What will be its coordinates if it lies on y-axis at a distance of -9 units from x-axis? (2)
6. Express $2x = 5$ in the form $ax + by + c = 0$ and find the value of a, b and c. (2)
7. If the median of the data arranged in ascending order $30, 32, 49, 50, 2x, 2x+2, 73, 78, 85, 96$ is 63, find the value of x. (2)
8. Diagonals AC and BD of a parallelogram ABCD intersect each other at O. If $OA = 3\text{cm}$ and $OB = 2\text{cm}$, determine the lengths of the diagonals. (2)

SECTION - C

Question numbers 9 to 14 carry 3 marks each.

9. Consider the point A $(-2, 3)$. (3)
a) How many lines can be drawn passing through A?

- b) Give equations of any two lines passing through A.

OR

Two pens and three pencils together cost 20. Represent this statement as a linear equation in two variables and give two solutions for it.

10. If the point (2, 1) lies on the line $5x - 2y = 2k$, find k. Also find one more solution for the given equation. (3)
11. Find missing frequency p for the following distribution whose mean is 15. (3)

x	5	10	15	20	25
f	6	p	6	10	5

12. If a, b, c and d are four angles of quadrilateral such that $a = 2b$, $b = 2c$, $c = 2d$, then find the measures of all angles of the quadrilateral. (3)
13. The percentage of marks obtained by a student in monthly unit test are given below: (3)

Unit test	I	II	III	IV	V
% of marks obtained	70	72	65	68	85

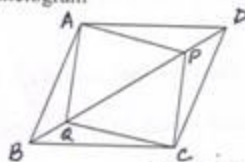
Find the probability that the student gets:

- More than 70% marks
 - Less than 70% marks
 - More than 90% marks
14. Prove that diagonals of a parallelogram divide it into two congruent triangles. (3)

OR

In parallelogram ABCD, two points P and Q are taken on diagonal BD such that $DP = BQ$. Show that

- $\triangle APD \cong \triangle CQB$
- $\triangle AQB \cong \triangle CPD$
- APCQ is a parallelogram



SECTION - D

Question numbers 15 to 19 carry 4 marks each.

15. a) Plot the points A(-2,4), B(-2,-3), C(4,-3) and D(4,4).
b) Draw the line segments AB, BC, CD and DA. What is the name of the figure ABCD?
c) What are the coordinates of the point where the segment AD cuts the y-axis? (4)

16. The food charges in a hostel are as follows:

For the first day, the charges are Rs. 100 and for the subsequent days it is Rs. 50 per day. Taking the number of days as x and total charges as Rs. y , write a linear equation for this information and draw its graph. (4)

17. Draw a histogram and frequency polygon (on the same graph) for the following data. (4)

Marks obtained	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of students	7	10	6	8	12	3	2	2

OR

The weights (in gm) of 30 oranges, picked at a random from a basket of oranges are given below: 90, 30, 45, 55, 65, 60, 50, 75, 70, 60, 70, 70, 60, 95, 85, 80, 35, 45, 40, 45, 55, 30, 110, 75, 100, 40, 60, 85, 40, 100.

Construct a grouped frequency distribution table with equal class intervals, one of them being 40-50.

18. The following frequency distribution table gives the weights of 38 students of a class. (4)

Weight in kg	30 -35	35 -40	40 - 45	45 -50	50 - 55	55 - 60
Number of students	10	5	15	5	1	2

Find the probability that the weight of a student is

- More than or equal to 45 kg
- Less than 30kg
- More than or equal to 30 kg but less than 60kg
- More than or equal to 40 kg but less than 55kg

19. ABCD is a trapezium in which $AB \parallel CD$ and $AD = BC$. Show that

- $\angle A = \angle B$
- $\triangle ABC \cong \triangle BAD$
- Diagonal $AC =$ Diagonal BD

(4)

