

PERIODICAL ASSESSMENT-2

2017-2018

CLASS : IX
TIME : 2 HRS.

SUB. : MATHEMATICS (SET-A)
M.M. : 50

General Instructions :

1. All questions are compulsory.
2. The question paper consists of four sections A, B, C and D. Section- A comprises of 4 questions of 1 mark each, Section- B comprises of 4 questions of 2 marks each, Section -C comprises of 6 questions of 3 marks each, Section- D comprises of 5 questions of 4 marks each.
3. There is no overall choice.

SECTION-A

- Q.1 Rationalise the denominator of $\frac{1}{\sqrt{5} + \sqrt{2}}$
- Q.2 Find the value of 'K', for which the polynomial $x^3 - 3x^2 + 3x + k$ has 3 as its zero.
- Q.3 What is the distance of point (0, -5) from the origin.
- Q.4 Point (4, -5) lies in which Quadrant.

44
+ 18
62

SECTION -B

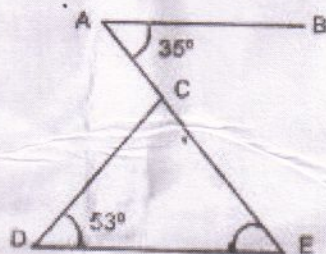
- Q.5 Find the value of the polynomial $4 - 6x + 5x^2$ at $x = -3$.
- Q.6 Plot the points (-1, 0), (1, 0), (1, 1), (0, 2) and (-1, 1) on the graph paper and join them in order. Name the figure obtained.
- Q.7 In the given Figure, if Q is mid point of PR and R is midpoint of QS, then show that $PQ = QR = RS = \frac{1}{3} PS$.

P Q R S



Also state which Euclid's Axiom is applied to prove the result.

- Q.8 In the given Figure if $AB \parallel DE$, $\angle BAC = 35^\circ$ and $\angle CDE = 53^\circ$. Find $\angle DCE$.



SECTION - C

- Q.9 If $(5)^{x-3} \times (3)^{x-8} = 225$, then find the value of 'X'.
- Q.10 What are possible expressions for the dimensions of the cuboid whose volume is given by $100kx^2 - 140kx + 48k$.
- Q.11 Draw the graph of $2x + y = 7$. Write the points where line meets x and y axis.
- Q.12 If two parallel lines are intersected by a transversal, then prove that the bisectors of any two corresponding angles are parallel.
- Q.13 In $\triangle ABC$, if D is a point on AC such that $AD = CD = BD$, then prove that $\triangle ABC$ is a right-angled triangle.
- Q.14 Find the area of a triangle whose two sides are 195m and 180m, and the perimeter is 450 m.

SECTION - D

- Q.15 If $x = 9 - 4\sqrt{5}$, find the value of $(x - \frac{1}{x})$.
- Q.16 If both $(x - 4)$ and $(x - \frac{1}{4})$ are factors of $ax^2 + 5x + b$, show that $a = b$.
- Q.17 The parking charges of a car in a parking lot is Rs 30. For the first 2hrs and Rs 10 per hr for subsequent hrs. Taking total parking time to be 'X' hrs and total charges as Rs 'y'.

Handwritten calculations and notes are scattered throughout the page. On the left side, there are several vertical calculations: $225 - 75 = 150$, $225 - 195 = 30$, and $225 - 170 = 55$. On the right side, there are calculations: $225 \times 5 = 1125$, $225 \times 5 = 1125$, $135 \times 5 = 675$, and $3375 \div 5 = 675$. At the bottom, there are more calculations: $170 - 88 = 82$ and $3375 \div 5 = 675$. The text 'IX/Maths(A)/2' is written near the bottom right.

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write a linear equation in two variables to express the above statement and draw its graph.

Q.18 Prove that the medians of an equilateral triangle are equal.

Q.19 ABC is a triangle, D is a point on AB such that $AD = \frac{1}{4} AB$

and E is a point on AC such that $AE = \frac{1}{4} AC$. Prove that

$$DE = \frac{1}{4} BC.$$

$$3x = 9 + 11$$
$$2 = 15 - 5$$

$$168 \div 48 = 3.5$$

IX/Maths(A)/3

$$40 \div 20 = 2$$