S-44-A

# MIDTERM EXAMINATIONS (2018 - 19)

# MATHEMATICS

**(English Medium)**

**PART - A & B**

**Class : IX** **(Max. Marks : 40)** **Time : 2.45 Hrs.**

**Instructions :**

1. **In the time duration of 2 hrs 45 min. 15 minutes is exclusively allotted to read and understand the question paper.**
2. **The question paper comprises of three Sections I, II, III.**
3. **All questions are compulsory.**
4. **There is no overall choice. However there is an internal choice to the questions under Section-III.**

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**Marks : 30** **PART-A** **Time : 2 Hrs.**

## Section - I

**Note : 1. Answer all the questions.**
**2. Each question carries 1 Mark.** **$4 \times 1 = 4$**

1. Find 10 rational numbers between $-\frac{3}{11}$ and $\frac{8}{11}$
2. Give any two axioms as Examples from your daily life.
3. Evaluate $50\frac{1}{2} \times 49\frac{1}{2}$ by using suitable algebraic identity.
4. Find the value of x if the median of $\frac{x}{2}, x, \frac{x}{5}, \frac{x}{4}, \frac{x}{3}$ is 8.

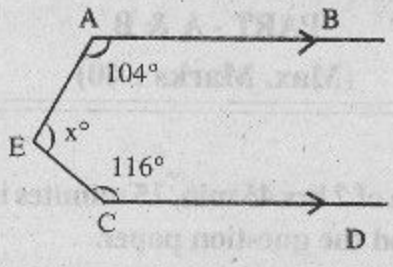
## Section - II

**Note : 1. Answer all the questions.**
**2. Each question carries 2 Marks.** **$5 \times 2 = 10$**

5. Every Integer is a rational number ! How ? Justify your answer.
6. If A, B, C are three points on a line and B lies between A and C then prove that AC – AB = BC

**P.T.O**

7. In the figure AB//CD then find the value of x.




8. There are four unknown numbers. The mean of the first two numbers is 4, and the mean of the first three is 9. The mean of all four numbers is 15. If one of the four numbers is 2, then find other numbers.

9. Check whether $(x - 2)$ is a factor of $x^3 - 2x^2 - 5x + 4$

## Section - III

**Note : 1. Answer all the questions. Internal choice in there.**

**2. Choose any one from each question.**

**3. Each question carries 4 Marks** **$4 \times 4 = 16$**

10. a) Simplify $\frac{1}{7+4\sqrt{3}} + \frac{1}{\sqrt{5}+2}$

**(OR)**

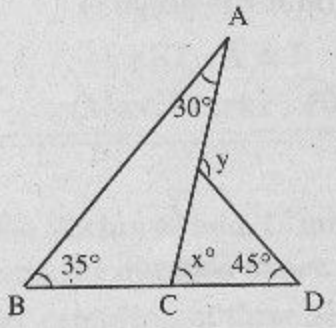
b) If 0 and 1 are the zeroes of the polynomial $f(x) = 2x^3 - 3x^2 + ax + b$ then find the values of a and b.

11. a) If the mean of the following frequency distribution is 7.2. Find the value of K.

| x | 2 | 4 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|
| f | 4 | 7 | 10 | 6 | K | 3 |

**(OR)**

b) Using the information given in the adjacent figure, find the value of x and y.




12.a) Simplify the following expressions.

i) $(3+\sqrt{3})(2+\sqrt{2})$ ii) $(2+\sqrt{3})(2-\sqrt{3})$

iii) $(\sqrt{5}+\sqrt{2})^2$ iv) $(\sqrt{5}-\sqrt{2})(\sqrt{5}+\sqrt{2})$

**(OR)**

b) The marks of 30 students of a class obtained in a test (out of 80) are given below.

42, 21, 50, 37, 42, 37, 38, 42, 49, 52, 38, 72, 53, 57, 47, 61, 59, 33, 71, 17, 39, 44, 42, 39, 14, 74, 27, 19, 54, 51 form a frequency distribution table and find its median.

13.a) Visualise 3.876 on the number line using successive magnification method.

**(OR)**

b) Give the geometrical proof of $(x-y)^2$.

Regd. No. [ ] **S-44-B** Marks : [ ]

# MIDTERM EXAMINATIONS (2018 - 19)
# MATHEMATICS

**(English Medium)**

**Part - B**

**Class : IX ]** **(Marks : 10)** **Time : 30 min.**

**Name of the Student : ..... Roll No.: .....**

**Instructions :**

1. **Each question carries equal marks.**
2. **Each question has 4 options. Write the capital letters indicating the answer in the given bracket.**
3. **Marks are not awarded for over writing answers.**

## Section –IV

**Note : 1. Answer all the questions.**

**2. Each question carries $^1/_2$ mark.** **$20 \times {}^1/_2 = 10$**

1. The value of $(243)^{2/5}$ = ..... [ ]

   A) 3 B) $3^2$ C) 9 D) B & C

2. If the angles of a triangle are $(2x)°$, $(3x + 5)°$ and $(4x - 14)°$ then the value of x is ..... [ ]

   A) 42° B) 21° C) 68° D) 70°

3. Median of the scores 75, 21, 56, 36, 81, 05, 42 is ..... [ ]

   A) 36 B) 42 C) 75 D) 81

4. Degree of the zero polynomial is ..... [ ]

   A) zero B) 1 C) not defined D) none

5. One of the defined term is ..... [ ]

   A) Flower B) Garland C) Leaf D) Tree

**P.T.O**

6. The value of Golden Ratio is ..... [ ]

A) 1 : 1.618 B) 1 : 2 C) 1 : 5 D) 1 : 1

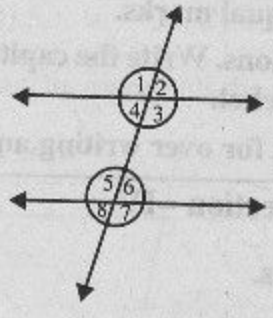
7. Factors of $3x^2 + 11x + 6$ is ..... [ ]

A) (x + 3) B) (3x + 2) C) A & B D) (x + 6)

8. The Famous Book "The Elements" was written by ..... [ ]

A) Pythagorous B) Euclid C) Archimedis D) Aryabhatta

9.




In the figure how many pairs of corresponding angels are there.[ ]

A) 8 B) 6 C) 4 D) 2

10. 30 – 39, 40 – 49 ..... classes are called ..... [ ]

A) Exclusive classes B) Inclusive classes

C) Boundaries D) Frequency

11. Zero values of $x^2 - 3x + 2$ is ..... [ ]

A) 3 B) 1 C) 2 D) B & C

12. "Readymade dresses" are the example for [ ]

A) Mean B) Median C) Mode D) Range

13. If $a + b + c = 0$ then $a^3 + b^3 + c^3$ = ..... [ ]

A) 0 B) abc C) 2abc D) 3abc

14. Statement I : If A = 0.525252 ..... , B = 0.525235234 ..... then A is rational, B is irrational. [ ]

Statement II : A rational number can be expressed as a terminating or non terminating recurring decimal.

A) Both statements I and II are true

B) Both I and II are false

C) Statement I is true but statement II is false.

D) Statement I is false but statement II is true.

15. If $3x^2 + x - 1$ is divided by $(x + 1)$ then the remainder is [ ]

A) 2 B) P (–1) C) 1 D) B & C

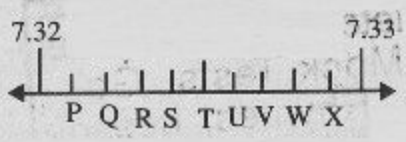
16. If $7 - 3\sqrt{5} = a + b\sqrt{5}$ then the value of b is ..... [ ]

A) 3 B) 7 C) – 3 D) $3\sqrt{5}$

17. 

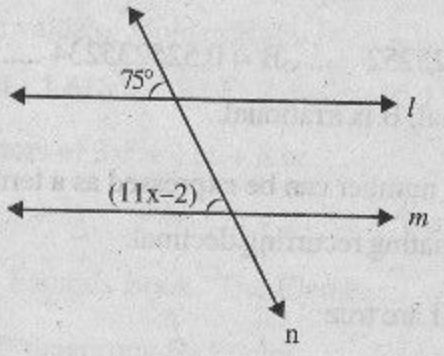
In fhe figure AC = AP, then the value of AP on the number line. [ ]

A) $\frac{1}{2}$ B) 1 C) 2 D) $\sqrt{2}$

18. 

In the figure V indicates [ ]

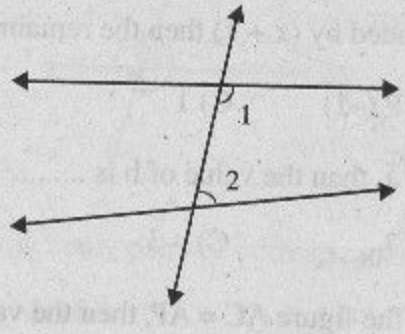
A) 7.325 B) 7.326 C) 7.327 D) 7.328

19. 


In the figure the value of x is ..... [ ]

A) 4 B) 5 C) 6 D) 7

20. Which Euclid postulate represents the adjacent figure. [ ]




A) 2 B) 3 C) 4 D) 5