



Indian School Al Wadi Al Kabir

Mid Term Examination

MATHEMATICS

Class: VIII

Date: 29/09/22

SET II

Time: $2\frac{1}{2}$ hours

Max. Marks: 80

Instructions:

Section A: Multiple Choice Question (Q.1 to Q.5) & Source based Question (Q.6)

Section B: Short Answer Questions of 2 marks each (Q.7 to Q.15)

Section C: Long Answer Questions (Type – 1) of 3 marks each (Q.16 to Q.23)

Section D: Long Answer Questions (Type – 2) (Q.24 to Q.28)

& Case study Question (Q.29 & Q.30) of 4 marks each

Section A: Multiple Choice Question (Q.1 to Q.5) of **1** mark each

- The unit place digit in square of 3148
A 8 **B** 4 **C** 2 **D** 6
- The measure of exterior of regular octagon
A 72° **B** 60° **C** 45° **D** 85°
- The standard form of 0.0000021684
A 2.1684×10^{-6} **B** 2.1684×10^{-5} **C** 0.21684×10^{-6} **D** 2.1684×10^6
- The multiplicative inverse of $\frac{-2}{3} \times \frac{9}{8}$
A $\frac{-3}{4}$ **B** $\frac{3}{4}$ **C** $\frac{4}{3}$ **D** $\frac{-4}{3}$
- The number diagonals in a polygon with 12 sides
A 45 **B** 54 **C** 56 **D** 24

Q6.

Source based Question -5 Marks

Tanuja and Sohan have some savings in their piggy bank. They decided to count the total coins. After counting they found that they have 50 ₹1 coins, 30 ₹5 coins and 20 ₹10 coins .They asked their friend Nisha to choose a coin randomly.



I What is the probability of getting ₹5 coins?

- A** $\frac{3}{10}$ **B** $\frac{2}{3}$ **C** $\frac{3}{5}$ **D** $\frac{1}{2}$

II What is the probability of getting ₹10 coins?

- A** $\frac{3}{5}$ **B** $\frac{3}{10}$ **C** $\frac{1}{5}$ **D** $\frac{2}{5}$

III What is the probability of getting ₹1 coins?

- A** $\frac{1}{5}$ **B** $\frac{2}{5}$ **C** $\frac{2}{3}$ **D** $\frac{1}{2}$

IV Which of the following cannot be the probability of an event?

- A** $\frac{3}{7}$ **B** 1 **C** $\frac{5}{2}$ **D** 0

V What is the probability of a sure event?

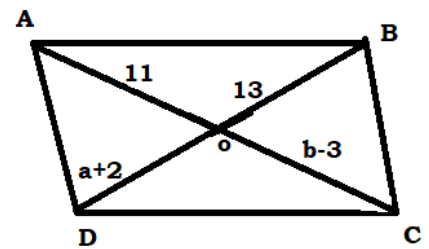
- A** 0 **B** 1 **C** $\frac{1}{2}$ **D** -1

Section B: Short Answer Questions (Type – 1) of 2 marks each (Q.7 to Q.15)

7. Simplify by using Distributive property : $\frac{11}{3} \times \frac{-5}{7} + \frac{11}{3} \times \frac{2}{7}$

8. Solve : $8y - 3 = 5y + 6$
9. Evaluate: $\left(\frac{1}{5}\right)^{-2} + \left(\frac{1}{2}\right)^{-2} - \left(\frac{1}{3}\right)^{-2}$
10. Simplify by laws of exponents: $\{ (2^3)^5 \div 2^{12} \} \times 2^2$
11. Express 121 as the sum of odd natural numbers.

12. ABCD is a parallelogram. The diagonals meet at the point O.
If $DO = a + 2$, $OC = b - 3$, $AO = 11\text{cm}$, $OB = 13\text{cm}$, Find the values of a and b.

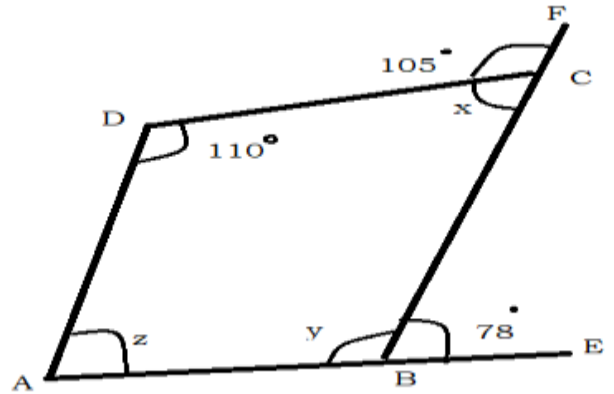


13. The sum of two numbers is 58. One number is 12 more than the other number. Find the numbers.
14. (a) How many natural numbers are there between 50^2 and 51^2 .
(b) Find the sum without actual addition : $1+3+5+7+9+11+13+15+17+19$
15. In a parallelogram the adjacent angles are in the ratio 2:3. Find the measure of adjacent angles.

Section C : Long Answer Questions (Type – 1) of **3** marks each (Q.16 to Q.23)

16. Represent the rational numbers $\frac{-5}{9}$, $\frac{-1}{9}$, $\frac{2}{9}$ and $\frac{7}{9}$ on the same number line.

17. In given quadrilateral ABCD, find the values of x, y and z.

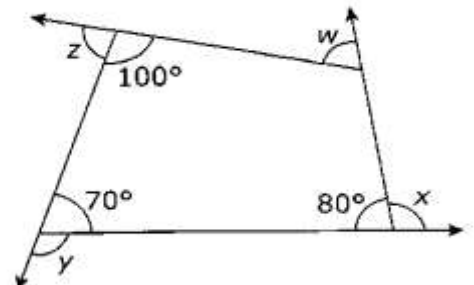


18. Find the Pythagorean triplet whose one member is 12.
19. Construct square with side 7.3 cm.
20. The sum of three consecutive numbers is 168. Find the numbers.
21. Find the value of p such that $\left(\frac{2}{3}\right)^{2p} \times \left(\frac{2}{3}\right)^6 = \left(\frac{2}{3}\right)^{10}$
22. Construct quadrilateral PQRS in which PQ = 5.2cm, QR = 7cm, RS = 6.2cm, SP = 6cm and diagonal PR = 8.5 cm.
23. Solve: $2(x - 8) + 3(x + 5) = 4(x + 1)$

Section D: Long Answer Questions (Type – 2) (Q.24 to Q.28)

& Case study (Q.29 &30) of 4 marks each

24. In given quadrilateral, find the missing angles x, y, z and w (Give reasons)



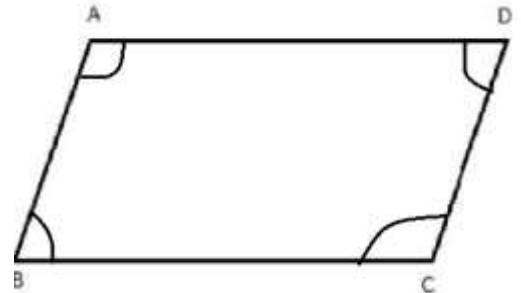
25. Find 4 rational numbers between $\frac{7}{8}$ and $\frac{8}{9}$
26. Ages of Manu and Mridula are in the ratio 3:5. After 5 years, the ratio their ages will be 2:3. Find their present ages.
27. The table shows time taken by the students of a class to complete the 1000m race in a sports competition. Draw histogram to represent the data.

Time in Sec	200-250	250-300	300-350	350-400	400-450	450-500
Number of students	2	10	12	8	6	4

28. Construct a Quadrilateral ABCD in which $BC = 4.3\text{cm}$, $AB = 5\text{cm}$, $CD = 4.5\text{cm}$, $\angle B = 60^\circ$ and $\angle C = 125^\circ$.

29. **Case Study-1**

The Math Teacher gave students colour papers made recycling of waste products in the shape of quadrilateral. She asked them to make parallelogram from it by paper folding. Adit made a parallelogram as shown figure. Study the parallelogram and answer the following.

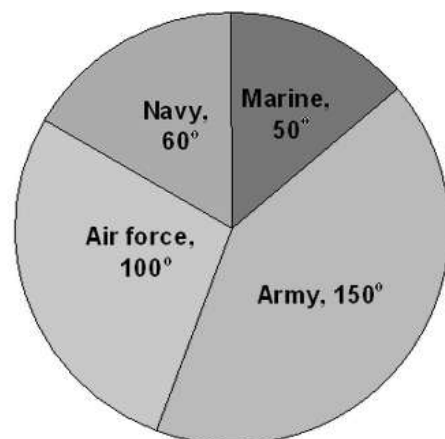


1.	If $\angle B = 85^\circ$, the measure of $\angle D$							
	A	95°	B	105°	C	85°	D	115°
II.	The diagonals of parallelogram -----							
	A	Bisect each other	B	Are equal	C	Are perpendicular	D	Are Perpendicular bisectors

III.	In parallelogram adjacent angles are -----							
	A	Equal	B	Supplementary	C	Complementary	D	Can't say
IV.	The sum of interior angles of parallelogram is							
	A	180°	B	540°	C	360°	D	720°

30. Case Study-2

900 men were volunteered for joining the armed force. The pie chart represents the proportion of men in different armed services. Study the pie chart and answer the following questions.



I.	In pie chart ,the data is shown as -----							
	A	Sectors	B	Segments	C	Arcs	D	Chords
II.	The maximum number of men volunteered in which armed service?							
	A	Air Force	B	Navy	C	Army	D	Marine
III.	If $\frac{1}{6}$ of men volunteered in Navy, how many people were volunteered in Navy?							
	A	250	B	150	C	100	D	175
IV.	The least number of men volunteered in which armed service?							
	A	Marine	B	Air Force	C	Army	D	Navy
