Indian School Al Wadi Al Kabir

Mid Term Examination

MATHEMATICS

Class: VIII | Time: $2\frac{1}{2}$ hours

Date: 29/09/22 | SET II | 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

29-09-2022

SONI: 1-6 = 10	**Section A**: Multiple Choice Question (Q.1 to Q.5) of **1** mark each						
1.	The unit place digit in square of 3148						
	A		**B**	**4** ✓	**C**	**D**	
2.	The measure of exterior of regular octagon						
	A		**B**		**C** 45^0 ✓	**D**	
3.	The standard form of 0.0000021684						
	A 2.1684×10^{-6} ✓		**B**		**C**	**D**	
4.	The multiplicative inverse of $\frac{-2}{3} \times \frac{9}{8}$						
	A		**B**		**C**	**D** $\frac{-4}{3}$ ✓	
5.	The number diagonals in a polygon with 12 sides						
	A		**B** 54 ✓		**C**	**D**	
Q6.	Source based Question (Q.6)-5 Marks						
I	What is the probability of getting ₹5 coins?						
	A $\frac{3}{10}$ ✓		**B**		**C**	**D**	
II	What is the probability of getting ₹10 coins?						
	A		**B**		**C** $\frac{1}{5}$ ✓	**D**	
III	What is the probability of getting ₹1 coins?						
	A		**B**		**C**	**D** $\frac{1}{2}$ ✓	
IV	Which of the following cannot be the probability of an event?						
	A		**B** ✓ $\frac{5}{2}$		**C**	**D**	
V	What is the probability of a sure event?						
	A		**B** 1 ✓				
SEREENA: 7-11=10	**Section B**: Short Answer Questions (Type – 1) of **2** marks each (Q.7 to Q.15)						
7.	Simplify by using Distributive property : $\frac{11}{3} \times \frac{-5}{7} + \frac{11}{3} \times \frac{2}{7}$						
	$\frac{11}{3} \times (\frac{-5}{7} + \frac{2}{7})$----------1 mark ✓ $\frac{11}{3} \times \frac{-3}{7}$ ---------- ½ mark ✓ $\frac{-11}{7}$ ---------- ½ mark ✓						
8.	Solve : 8y-3 =5y +6						
	8y-5y =6+3 ----------1 mark ✓ 3y =9 ---------- ½ mark ✓ y= 3---------- ½ mark ✓						
9.	$\left(\frac{1}{5}\right)^{-2} + \left(\frac{1}{2}\right)^{-2} - \left(\frac{1}{3}\right)^{-2}$						
	$= 5^2 + 2^2 - 3^2$ ---------- 1 mark ✓ =25 + 4 -3 ---------- ½ mark ✓ = 26 ---------- ½ mark ✓						
10.	$\{ (2^3)^5 \div 2^{12} \} \times 2^2$						
	$\{ 2^{15} \div 2^{12} \} \times 2^2$-----1mark ✓ (application of first law) $2^3 \times 2^2$ ----------½ mark ✓ 2^5 ---------- ½ mark ✓						
11.	(a) 121= 1+3+5+7+9+11+13+15+17+19+21 ---------- 2 mark ✓						

SHIJI: 12-16=11

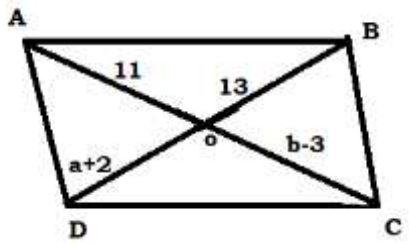
12. In parallelogram diagonals bisect each other

a +2 = 13 ---------- ½ mark

a = 13-2 = 11 cm ---------- ½ mark

b-3 = 11 ---------- ½ mark

b = 11 +3 = 14 cm ---------- ½ mark



13. Let the numbers be x and x+12 --------½ mark

ATQ x + x+12 = 58 ------½ mark

2x +12 = 58

2x = 58-12 =46 x = 23 ----½ mark x+12= 35 ----------½ mark

14. (a) 2 × 50 = 100 numbers ---------- 1 mark

(b) 1+3+5+7+9+11+13+15+17+19= 10^2 = 100 ----------1 mark

15. Ratio=2:3

Let the adjacent angles be 2x and 3x ---------- ½ mark

2x + 3x = 180^0 ---------- ½ mark 5x = 180 x = 36^0 ---------- ½ mark

The angles are 72^0 and 108^0 ---------- ½ mark

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 same number line.

Number line ------- 1 mark Each rational numbers ---------- ½ mark Each

17. In quadrilateral ABCD,

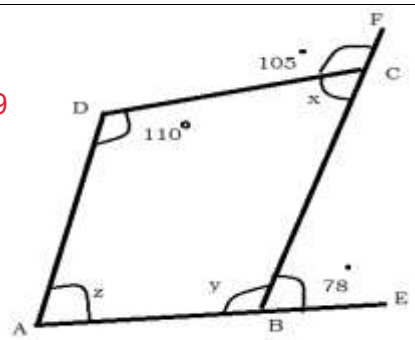
X = 180^0 -105^0= 75^0 (linear pair)----------1 mark

Y = 180^0 -78^0= 102^0 (linear pair)----------1 mark

Z= 360^0- (75^0 +110^0 +102^0) (Angle sum property)

Z = 360^0 – 287^0= 73^0----------1 mark

AJITHA: 17-19=9



18. The Pythagorean triplet whose on member is 12

2m = 12 --------½ mark m = 6 ---------- ½ mark

m^2 -6 = 6^2-1 --------½ mark = 36 +1 = 37 ---------- ½ mark

m^2 +6 = 6^2+1 --------½ mark = 36-1 = 35 ---------- ½ mark

(12, 35,37) is the required Pythagorean triplet

19. Drawing line segment 7.3 cm -- ½ mark Construction of 90^0 angles --(1+1) Completing the other side's ---- ½ m

20. The sum of three consecutive numbers is 168

Let the numbers be x , x+1,x+2 ---------- ½ mark ATQ x + x+1 + x +2 = 168 ----------1 mark

3x + 3 = 168---------- ½ mark 3x = 168 -3= 165

X = 55 ---------- ½ mark x+1 = 56 , x +2 = 57 ---------- ½ mark

ARSHA: 20-23=12

21. $(\frac{2}{3})^{2p} \times (\frac{2}{3})^6 = (\frac{2}{3})^{10}$

$(\frac{2}{3})^{2p+6} = (\frac{2}{3})^{10}$ ---------- 1 ½ mark On equating the powers 2 p +6 = 10 ---------- ½ mark

2p = 10-6 =4---------- ½ mark P = 2 ---------- ½ mark

22. PQRS in which PQ =5.2cm, QR= 7cm, RS=6.2cm, SP = 6cm and diagonal PR= 8.5 cm.

Drawing PR----------1 mark Getting the point Q or S----------1mark

Getting the point S or BQ---------- ½ mark completing the quadrilateral ----------½ mark

23. 2(x - 8) + 3(x +5) = 4(x +1) 2x-16 +3x +15 = 4x +4 ---------- 1½ mark

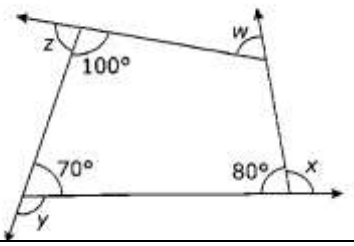
5x -1 = 4x +4 ---------- ½ mark 5x -4x = 4 +1 ---------- ½ mark

x =5 ---------- ½ mark

Section D:Long Answer Questions(Type – 2) (Q.24 to Q.28) & Case study (Q.29 &30) of **4** marks each BINDU:24-26=12

24.

x = 180^0-80^0 = 100^0 (linear pair)--------1 mark
y = 180^0-70^0 = 110^0 (linear pair)--------1 mark
z = 180^0-100^0 = 80^0 (linear pair)--------1 mark
w = 360^0- (100^0 + 110^0 +80^0) (Exterior angles)
= 360^0- 290^0 = 70^0 ----------1 mark



25.

4 rational numbers between $\frac{7}{8}$ and $\frac{8}{9}$
$\frac{7\times9}{8\times9}=\frac{63}{72}$ $\frac{8\times8}{9\times8}=\frac{64}{72}$ (½ +½)
$\frac{63\times10}{72\times10}=\frac{630}{720}$ $\frac{64\times10}{72\times10}=\frac{640}{720}$ (½ +½)
Any four rational numbers between $\frac{630}{720}$ and $\frac{640}{720}$ (½ ×4 =2)

26.

ratio 3:5 Table or assumption – 1½ mark

	Present age	Age after 5 years
Manu	3x	3x +5
Mridula	5x	5x +5

1/2 EACH 2

$\frac{3x+5}{5x+5}=\frac{2}{3}$ ---------1/2---1 mark
2(5x +5) = 3(3x +5) -------½ mark
10x-9x = 15-10
The present age of Manu= 15 years ----------½ mark
10x +10 = 9x +15
x = 5 ---------- ½ mark
The present age of Mridula = 25 years

27.

Axes----------1 mark 6 bars × ½ mark= 3 marks SHEENA: 27-28=8

28.

Quadrilateral ABCD in which AB=5cm,BC= 4.3cm, CD= 4.5cm $\angle B = 60^0$ and $\angle C = 125^0$.
Drawing BC= 4.3cm ----------1 mark
Drawing 125^0-----½ mark
Getting the point D ----------½ mark
60^0 angle construction --------1 mark
Getting the point A ------½ mark
Completing the quadrilateral ABCD ----------½ mark

29.

Case Study-1 JOBBY:29-30=8

1.	If $\angle B = 85^0$,the measure of $\angle D$							
	A		**B**		**C**	**85^0**	**D**	
II.	The diagonals of parallelogram ---------							
	A	**Bisect each other**	**B**		**C**		**D**	
III.	In parallelogram adjacent angles are -----							
	A		**B**	**Supplementary**	**C**		**D**	
IV.	The sum of interior angles of parallelogram is							
	A		**B**		**C**	**360^0**	**D**	

30.

Case Study-2

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