INDIAN SCHOOL AL WADI AL KABIR

Mid Term Examination (2024-25)

Class: VIII Sub: MATHEMATICS Max Marks: 80

Date: 206/09/24 Set- II(ANSWER KEY) Time: 2 ½ hours

Section A: Multiple Choice Question (Q.1 to Q.15) of **1** mark each

1. If 8p – 5= 2p +13, then the value of p is

	A		**B**		**C**	3	**D**	

2. Which of the following numbers square root ends with 9?

	A		**B**		**C**		**D**	2401

3. The standard form of 0.00005789

	A		**B**	5.789×10^{-5}	**C**		**D**	

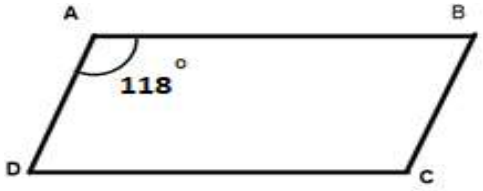
4. Additive inverse of $\frac{5}{7}\times\frac{-2}{15}$

	A	$\frac{2}{21}$	**B**		**C**		**D**	

5. The value of $[\{ (2^3)^2 \div 2^5 \} + (2^0 + 3^0)^2$

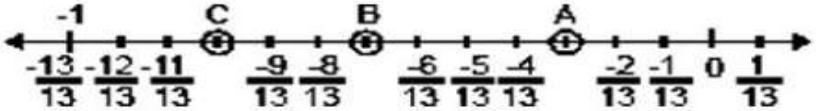
	A		**B**		**C**	6	**D**	

6. In parallelogram ABCD, $\angle A = 118^0$, then the measure of $\angle B$ is:

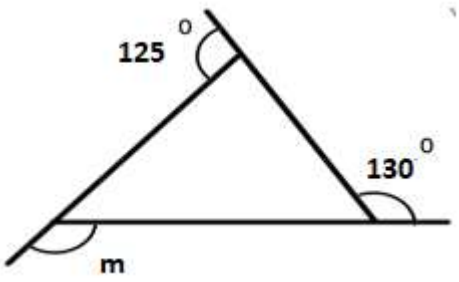


	A		**B**	62^0	**C**		**D**	

7. Identify the rational numbers represented by the points A, B and C



	A		**B**	$\frac{-3}{13}, \frac{-7}{13}, \frac{-10}{13}$	**C**		**D**	
8.	Two angles of a quadrilateral are equal and the other angles are 76^0 and 110^0. The measure of equal angles is:							
	A		**B**		**C**		**D**	87^0
9.	The value of $(\frac{3}{5})^{-3}$							
	A		**B**	$\frac{125}{27}$	**C**		**D**	
10.	In the summer, a survey was conducted among few people about their favourite drinks .15% people likes cold coffee. The central angle of the sector representing this on a pie chart is							
	A		**B**		**C**		**D**	54^0
11.	The value of $\frac{\sqrt{144\times25}}{\sqrt{36}}$							
	A		**B**	10	**C**		**D**	
12.	The property used in $\frac{-5}{11} + (\frac{1}{5} + \frac{-2}{9}) = (\frac{-5}{11} + \frac{1}{5}) + \frac{-2}{9}$							
	A		**B**		**C**	Associativity	**D**	
13.	How many non-square numbers are there between 45^2 and 46^2?							
	A		**B**	90	**C**		**D**	
14.	The ratio of boys and girls in the class is 9:5. The number of boys is 12 greater than number of girls. The number of girls is:							
	A		**B**	15	**C**		**D**	

15.	In figure the value of m is 						
	A		**B**		**C**	105^0	**D**	1
Q16.	Source based Question -5 Marks Sanjay and friends went to a carnival. In one of the game stalls they found spinning prize wheel. Sanjay and Rohit decided to play the game to check their fortune. Based on the information answer the following Questions 						
I	If the spinner stops at odd number, they would get ₹10. The probability of getting ₹10 is:						
	A		**B**		**C**	$\frac{5}{6}$	**D**	
II	The probability of getting green sector with odd number is:						
	A		**B**	$\frac{1}{6}$	**C**		**D**	
III	Red, green and blue are primary colours. The probability of getting primary colour sector with odd number is:						
	A	$\frac{1}{3}$	**B**		**C**		**D**	
IV	Which of the following can not be the probability of an event?						
	A		**B**		**C**	$\frac{8}{7}$	**D**	
V	If the spinner stops at sector with any colours present on the Indian flag, Sanjay and Rohit would get ₹25, the probability of winning ₹25 is:						

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

Section B: Short Answer Questions (Type – 1) of **2** marks each (Q.17 to Q.21)

17.

2m = 14 (½) m= 7 (½)

$m^2-1 = 7^2 -1 = 49 -1 = 48$(½)

$m^2+1 = 7^2+1 =49 +1 = 50$(½) The required Pythagorean triplet (14,48,50)

18.

Exterior angle = $\frac{360^0}{n} = \frac{360^0}{8} = 45^0$ (½+½)

-Interior angle = $180^0 – 45^0 = 135^0$ (Linear Pair) 45^0 (½+½)

19.

$\frac{3}{7} \times \frac{-5}{4} + \frac{3}{7} \times \frac{9}{3}$

$\frac{3}{7} \times (\frac{-5}{4} + \frac{9}{3})$ (½) LCM =12

$\frac{3}{7} \times (\frac{-5\times3}{4\times3} + \frac{9\times4}{3\times4})$ (½)

$\frac{3}{7} \times (\frac{-15}{12} + \frac{36}{12})$ (½) $\frac{3}{7} \times \frac{-21}{12} = \frac{-3}{4}$ (½)

20.

$[(\frac{3}{11})^{-3} \times (\frac{3}{11})^5] \div (\frac{3}{11})^4 = (\frac{3}{11})^2 \div (\frac{3}{11})^4$(1m) $= (\frac{3}{11})^{-2}$(½) $= (\frac{11}{3})^2$(½)

21.

2(t +5) = 7(t −3) – 14

2t +10 = 7t - 21 -14 (1m)

2t – 10 = 7t -35

2t -7t =-35 +10(½)

-5t = -25 t = -25/-5= 5(½)

Section C: Long Answer Questions (Type – 1) of **3** marks each (Q.22 to Q.27)

22. $\frac{49^{-1}\times5^{-2}\times p^6}{7^{-4}\times125^{-1}\times p^4}$

$\frac{7^4\times125^1\times p^6}{49^1\times5^2\times p^4}$ (1½) $\frac{7^4\times5^3\times p^6}{7^2\times5^2\times p^4}$ (1) $7^2\times5^1\times p^4$ (½) $=245p^4$

23 Pairing digits (½) 83

Getting 8 (1)

Getting 3 (1)

$\sqrt{6889}$ = 83 (½)

8	6889 64
163	489 489
	0

24. Let the numbers be 7x and 3x (½)

A.T.Q 7x – 3x = 48 (1)

4x = 48 (½) X = 12 (½) The numbers are 7x 12 = 84 and 3 x 12 = 36 (½)

25 In parallelogram, diagonals bisect each other.

y +3 = 6 (½) y = 6-3 = 3cm (½)

2x +y = 7 (½) 2 x = 7-3 =4 (½) x = 2cm (½)

Z= 8 cm (Opposite sides of parallelogram are equal) (½)

26. $\left(\frac{-3}{7}\right)^{2m+1}\times\left(\frac{-3}{7}\right)^7=\left(\frac{-3}{7}\right)^{14}$

$\left(\frac{-3}{7}\right)^{2m+8}=\left(\frac{-3}{7}\right)^{14}$(1)

On equating powers, 2m +8 = 14(1) 2m = 14 – 8 = 6(½) m = 6/2 = 3 (½)

27 $\frac{-3}{8}$, $\frac{-1}{8}$, $\frac{5}{8}$ and $\frac{7}{8}$ Number line -1 mark rational numbers (4 x ½=2)

Section D: Long Answer Questions (Type – 2) (Q.28 to Q.33)

& Case study (Q.34 &35) of **4** marks each

28.

Let the multiples be x, x+7, x+14(½)

x+x+7+x+14 = 777(1m)

3x +21 = 777(½)

3x = 777-21(½)

3x= 756(½)

X = 756/3=252(½)

252,259,266 are the required multiples(½)

OR

Let the multiples be x-7, x, x+7(1)

x+x-7+x+7 = 777(1m)

3x = 777(½)

X = 777/3=259(½)

252,259,266 are the required multiples (1)

29.

In parallelogram, opposite sides are parallel and equal

3p = 21cm(½) P= 7cm(½)

4q +5 = 29(½) 4q= 29-5=24cm

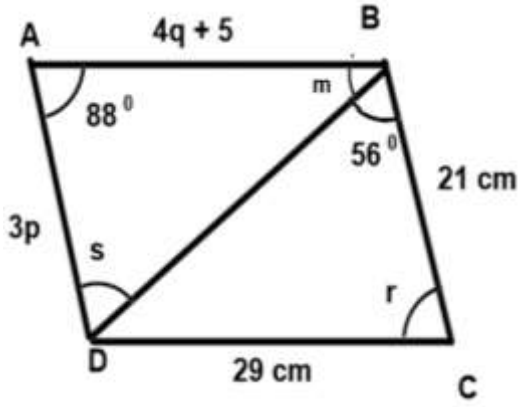
q = 6 cm(½)

r = 88^0(opposite angles are equal) (½)

s= 56^0(alternate interior angles are equal) (½)

m+56^0+88^0 = 180^0(adjacent angles are supplementary) (½)

m + 144= 180 m= 180-144=36^0(½)



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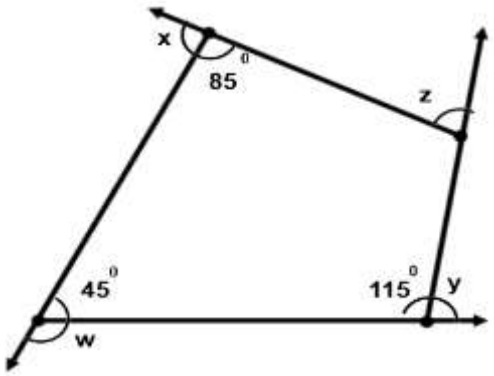
Sport item	No. of students	Fraction	Central angle
Cricket	60	$\frac{60}{180}$	$\frac{60}{180} \times 360 = 120^0$
Foot ball	45	$\frac{45}{180}$	$\frac{45}{180} \times 360 = 90^0$
Badminton	40	$\frac{40}{180}$	$\frac{40}{180} \times 360 = 80^0$
Table tennis	35	$\frac{35}{180}$	$\frac{35}{180} \times 360 = 70^0$
Total	180		

	Table – 2 marks Drawing pie chart -2 marks
31	$\frac{4}{5}$ and $\frac{5}{6}$. LCM= 30(½) $\frac{4\times6}{5\times6}=\frac{24}{30}$ $\frac{5\times5}{6\times5}=\frac{25}{30}$ (½+½) $\frac{24\times10}{30\times10}=\frac{240}{300}$ $\frac{25\times10}{30\times10}=\frac{250}{300}$ (½) Any four rational numbers (between 0.8 and 0.83) (4 ×½=2)
32.	4032 = 2×2×2×2×2×2×3×3×**7×---** Each pair of factors (½) each and getting 7(½) 4032 to be multiplied by 7 (½) $\sqrt{4032\times7}$ = 2×2×2×3×7(½) = 168(½)

2	4032
2	2016
2	1008
2	504
2	252
2	126
3	63
3	21
7	7
	1

33.	x= $180^0 - 85^0 = 95^0$(linear pair) (1m) y= $180^0 - 115^0 = 65^0$(linear pair) (1m) w= $180^0 - 45^0 = 135^0$(linear pair) (1m) x +y+ z+ w = 360^0(exterior angle property) z= 360 - (95 + 65 +135) = 360 - 295= 65^0(1m)



	Or fourth angle = 360 – (85 + 45 +115) = 115 Z = 180-115 = 65^0
34.	**Case Study-1** 29 <table><tr><td>2</td><td>850 4</td></tr><tr><td>49</td><td>4 50</td></tr><tr><td></td><td>441</td></tr><tr><td></td><td>9</td></tr></table> Getting 2(½), getting 9(½) remainder 9 (½) I. Number of plants left = 9 ((½) II. Number of rows = 29 (1m) III. 1+3+5+7+9+11+13+15+17+19+21= 11^2=121
35.	**Case Study-2** I. $(\frac{1}{5})^{-2} + (\frac{1}{3})^{-2} - (\frac{1}{7})^{-1} = 5^2 + 3^2 - 7$(1 m) = 25 + 9 -7 (½)= 27(½) II. The multiplicative inverse of $[(\frac{8}{11})^{-2} \times \frac{8}{11})^5]$= The multiplicative inverse of $(\frac{8}{11})^3 = (\frac{8}{11})^{-3}$ (½+½) III. a) 8.34×10^{-4} = 0.000834 (b) 5.132 $\times10^5$ = 513200(½+½)

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