



INDIAN SCHOOL AL WADI AL KABIR

Mid-Term Examination (2022-23)

Class: VII

Sub: MATHEMATICS

Max Marks: 80

Date: 27/09/2022

Set - I

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

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

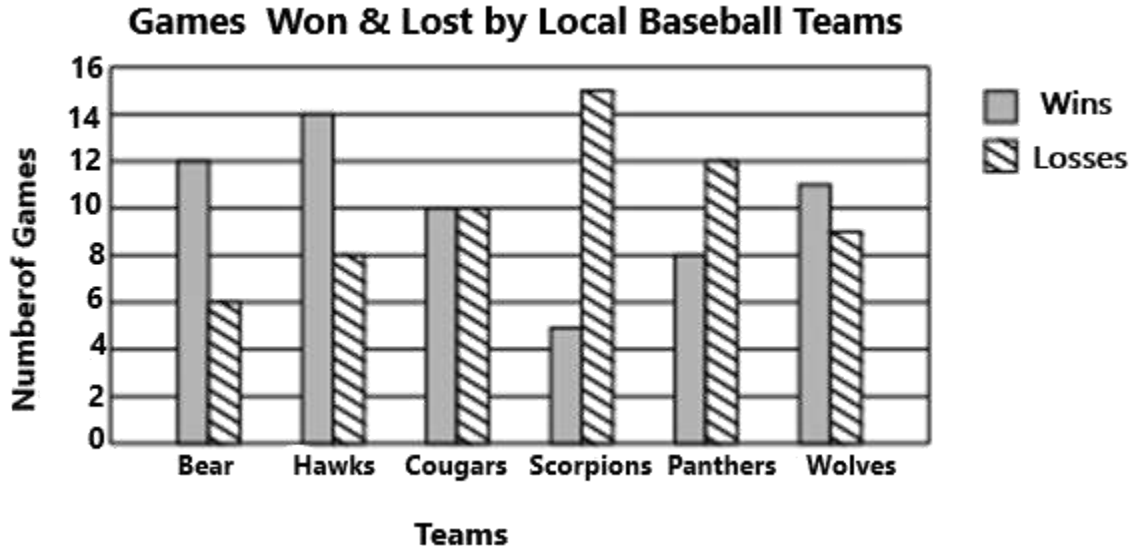
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27-09-2022

Section A: Multiple Choice Question (Q.1 to Q.5) of 1 mark each ARSHA (1-6=10)

1.	Write equation for the following statement: "Six more than seven times a number is thirty-four"						
A		B	$7y + 6 = 34$ ✓	C		D	
2.	Find the range of the weights (in kg) of the students of a class given below: 48, 60, 47, 50, 47, 57, 58, 45, 53.						
A		B		C	15 ✓	D	
3.	Find the pair of integers whose sum is (-5).						
A		B		C		D	✓ (-3, -2)
4.	By using decimals express 1125 paise as rupees.						
A		B	₹ 11.25 ✓	C		D	
5.	If two angles are complementary angles and one of the angles is of 52° then find the measure of another angle.						
A	38° ✓	B		C		D	
Source based Question (Q.6)-5 Marks							

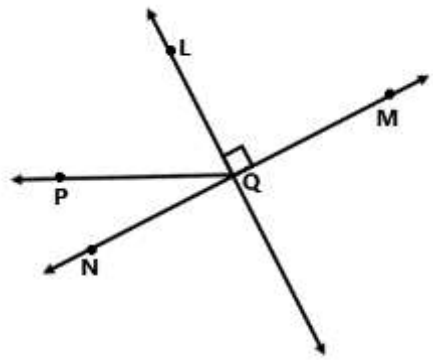
Q6.

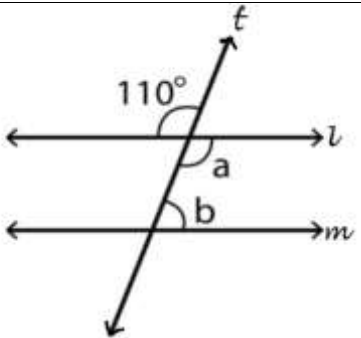
Given below is a double bar graph which shows the number of games won and lost by six local baseball teams. Observe the graph and answer the questions that follows.



I	How many games won by Bear team?						
A		B		C		D	✓ 12
II	Which team won and lost the same number of games.						
A		B		C	Cougars ✓	D	
III	How many more games did the Hawks win than the Panthers?						
A		B	6 ✓	C		D	
IV	For the Panthers, what is the ratio of number of games won to number of games lost?						
A	2:3 ✓	B		C		D	
V	Which team won least number of games?						
A		B	Scorpions ✓	C		D	

Section B: Short Answer Questions (Type – 1) of 2 marks each (Q.7 to Q.15) **SHEENA (7-12=12)**

<p>7.</p>	<p>Find the product: $(-20) \times (-4) \times 15$</p> <p>Ans: $(-20) \times (-4) \times 15$ $= 80 \times 15 \dots\dots\dots(1m) \checkmark$ $= 1200 \dots\dots\dots(1m) \checkmark$</p>	
<p>8.</p>	<p>From the given figure write the names of the following angles:</p> <p>a) A linear pair b) A pair of complementary angles.</p> <p>Ans:</p> <p>a) A linear pair : $(\angle NQP, \angle PQM)$ or $(\angle NQL, \angle LQM) \dots\dots(1m) \checkmark$</p> <p>b) A pair of complementary angles. $(\angle NQP, \angle PQL) \dots\dots\dots (1m) \checkmark$</p>	
<p>9.</p>	<p>Find $\frac{3}{4}$ of 24 Liters</p> <p>Ans: $\frac{3}{4}$ of 24 = $\frac{3}{4} \times 24 \dots\dots\dots \checkmark \dots (1/2 m)$ $= \frac{3}{4} \times \cancel{24}^6 \dots\dots\dots \checkmark \dots (1m)$ $= 3 \times 6 = 18 \text{ litres} \dots\dots\dots \checkmark \dots (1/2 m)$</p>	
<p>10.</p>	<p>Use the sign of $>$, $<$ or $=$ in the box to make the statements true.</p> <p>$-7 + 15$ <input type="text" value=">"/> $-7 - 15$</p> <p>Ans: LHS = $-7 + 15 = 8 \dots\dots\dots (1/2m) \checkmark$ RHS = $-7 - 15 = (-7) + (-15) = -22 \dots\dots\dots(1m) \checkmark$</p> <p>Comparing; $8 > -22$ $-7 + 15$ <input type="text" value=">"/> $-7 - 15 \dots\dots\dots (1/2m) \checkmark$</p>	
<p>11.</p>	<p>Solve the equation: $3x + 2 = 17$</p> <p>Ans: $3x + 2 = 17$ $3x = 17 - 2 \dots\dots\dots(1/2m) \checkmark$ $3x = 15 \dots\dots\dots(1/2m) \checkmark$ $x = \frac{15}{3} = 5 \dots\dots\dots(1/2m + 1/2 m) \checkmark$</p>	

<p>12.</p>	<p>Lines $l \parallel m$, and t is a transversal. Find the angles a and b. Ans: $a = 110^\circ$ (vertically opposite angles are equal).....(1m)✓ $b = 180^\circ - 110^\circ = 70^\circ$ (co interior angles are supplementary)(1m) ✓</p>	
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JOBBY (13-17=12)

<p>13.</p>	<p>Check whether the value given in the brackets is a solution of the given equation or not? (Show working) $5x - 2 = 14$; $(x = 2)$ Ans: LHS = $5x - 2 = (5 \times 2) - 2 = 10 - 2 = 8$(1m) ✓ RHS = 14 LHS \neq RHS.....(1/2m)✓ $x = 2$ is not a solution of the given equation(1/2m)✓</p>
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<p>14.</p>	<p>Find the median of the following data: 61, 43, 127, 99, 41, 92, 71, 58, 57. Ans: Arrange in ascending order: 41, 43, 57, 58, 61, 71, 92, 99, 127(1m) ✓ $n = 9, \frac{n+1}{2} = \frac{9+1}{2} = \frac{10}{2} = 5^{\text{th}}$ observation = 61(1m)✓</p>
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<p>15.</p>	<p>Find the value of the following: A) $0.0805 \times 100 = 8.05$..... (1m)✓ B) $64.32 \div 10 = 6.432$.....(1m)✓</p>
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Section C: Long Answer Questions (Type – 1) of 3 marks each (Q.16 to Q.23)

<p>16.</p>	<p>Find the solution of the equation: $4(p - 3) = 16$ Ans: $(p - 3) = \frac{16}{4} = 4$.....(1m)✓ $p = 4 + 3$(1m)✓ $= 7$(1m)✓</p>
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<p>17.</p>	<p>Manu recorded the temperatures (in $^\circ\text{C}$) of different cities as follows: 29, 30, 25, 27, 40, 39, 42, 19, 28. Find the mean of the data. Ans: Mean = $\frac{\text{sum of observations}}{\text{no. of observations}} = \frac{29+30+25+27+40+39+42+19+28}{9}$(1m)✓ $= \frac{279}{9}$ (1m)✓ $= 31$..... (1m)✓</p>
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SONI (18-21=12)

18.	<p>Find the value of the following using suitable property.</p> $-192 \times 143 + -192 \times 57$ $= -192 \times (143 + 57) \dots\dots\dots(1m) \checkmark$ $= -192 \times 200 \dots\dots\dots(1m) \checkmark$ $= -38400 \dots\dots\dots(1m) \checkmark$	
19.	<p>Divide: $7\frac{1}{2} \div \frac{3}{4}$</p> <p>Ans: $7\frac{1}{2} \div \frac{3}{4} = \frac{15}{2} \times \frac{4}{3} \dots\dots\dots(1/2 + 1/2) \checkmark$</p> $= \frac{5\cancel{15}}{2} \times \frac{\cancel{4}}{3} \dots\dots\dots(1/2 + 1/2) \checkmark$ $= 5 \times 2 = 10 \dots\dots\dots(1m) \checkmark$	
20.	<p>A plane is flying at the height of 3500 m above the sea level. At a particular point, it is exactly above a submarine floating 1000 m below the sea level. What is the vertical distance between them?</p> <p>Ans: Height of flying plane = 3500m.....(1/2m) \checkmark</p> <p>Depth of submarine = (-1000) m.....(1/2m) \checkmark</p> <p>Vertical distance between them</p> $= 3500 - (-1000) \dots\dots\dots(1m) \checkmark$ $= 3500 + 1000 \dots\dots\dots(1/2m) \checkmark$ $= 4500 \text{ m} \dots\dots\dots(1/2m) \checkmark$	
21.	<p>In the adjoining figure, $m \parallel n$ and l is the transversal. Identify</p> <p>(i) a pair of corresponding angles.</p> <p>(ii) a pair of alternate interior angles.</p> <p>(iii) a pair of interior angles on the same side of the transversal.</p> <p>Ans: (i) $(\angle 1, \angle 5)$, $(\angle 4, \angle 8)$, $(\angle 2, \angle 6)$, $(\angle 3, \angle 7)$ any one pair(1m) \checkmark</p> <p>(ii) $(\angle 4, \angle 6)$, $(\angle 3, \angle 5)$ any one pair.....(1m) \checkmark</p> <p>(iii) $(\angle 4, \angle 5)$, $(\angle 3, \angle 6)$ any one pair.....(1m) \checkmark</p>	
AJITHA (22-24=10)		
22.	<p>A glass jar contains 5 red, 7 green, 9 blue and 11 yellow marbles. If a single marble is picked at random from the jar, what is the probability of</p> <p>Ans: Total number of marbles = 32</p> <p>a) $P(\text{Getting a blue marble}) = \frac{9}{32} \dots\dots 1m \checkmark$</p> <p>b) $P(\text{Getting a red marble}) = \frac{5}{32} \dots\dots 1m \checkmark$</p> <p>c) $P(\text{Getting a yellow marble}) = \frac{11}{32} \dots\dots 1m \checkmark$</p>	
23	<p>Alka walks $3\frac{1}{4}$ km in one hour. How far does she go in 7 hours?</p> <p>Ans: Distance walked by Alka in one hour = $3\frac{1}{4}$ km</p> <p>Distance walked in 7 hours = $\frac{13}{4} \times 7 \dots\dots\dots(1/2+1/2) \checkmark$</p> $= \frac{13 \times 7}{4} = \frac{91}{4} \dots\dots\dots(1/2+1/2) = 22\frac{3}{4} \text{ km} \dots\dots(1m) \checkmark$	

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

24. In a class test containing 11 questions, 5 marks are awarded for every correct answer and (-2) marks are awarded for every incorrect answers.

- i) Tina got 8 correct answers and 3 incorrect answers. What is her total score?
- ii) Reena got 4 correct answers and 6 incorrect answers. What is her total score?

Ans:

Marks awarded for correct answer = 5
 Marks awarded for incorrect answer = (-2)

Tina

Number of correct answers Tina got = 8
 Score for correct answers = $8 \times 5 = 40$ ($\frac{1}{2}$ m) ✓

Number of incorrect answers Tina got = 3
 Score for incorrect answers = $-2 \times 3 = -6$ ($\frac{1}{2}$ m) ✓

Tina's total score = $40 + (-6) = 34$ (1m) ✓

Reena

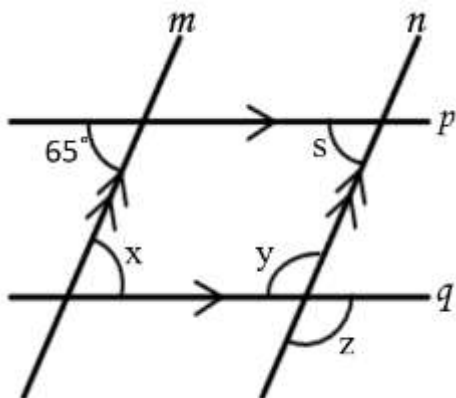
Number of correct answers Reena got = 4
 Score for correct answers = $4 \times 5 = 20$ ($\frac{1}{2}$ m) ✓

Number of incorrect answers Reena got = 6
 Score for incorrect answers = $-2 \times 6 = -12$ ($\frac{1}{2}$ m) ✓

Reena's total score = $20 + (-12) = 8$ (1m) ✓

BINDU (25-27=12)

25. Find missing angles x , y , z and s from the given figure; if the lines $m \parallel n$ and $p \parallel q$.



Ans: $x = 65^\circ$ (alternate interior angles are equal).....(1m) ✓

$Y = 180^\circ - 65^\circ = 115^\circ$ (co interior angles are supplementary)(1m) ✓

$z = 115^\circ$ (vertically opposite angles are equal)(1m) ✓

$s = 180^\circ - 115^\circ = 65^\circ$ (co interior angles are supplementary)(1m) ✓

26. A car covers a distance of 183.9 km in 3 hours.
 a) Find the distance covered by the car in one hour?
 b) Find the distance covered by the car in 2.5 hours?
Ans:
 a) Distance covered in 3 hours = 183.9km
 Distance covered in 1 hour = $\frac{183.9}{3}$ (1m) ✓
 = 61.3km(1m) ✓
 b) Distance covered in 2.5hours = 61.3×2.5 (1m) ✓
 = 153.25km.....(1m) ✓

27. Anil’s mother is 60 years old. She is 8 years older than twice Anil’s age. What is Anil’s age.
Ans: Let Anil’s age is x years
 Mother’s age = $2x + 8$ (1/2m) ✓
 Equation formed is $2x + 8 = 60$(1/2m) ✓
 $2x = 60 - 8 = 52$(1+1/2m) ✓
 $X = \frac{52}{2} = 26$(1+1/2m) ✓
 Anil’s age is 26 years

SEREENA (28-30=12)

28. The following table shows the number of girls and boys of a class who take part in different sports activities. Draw a double bar graph to represent the data.

Sports	Hockey	Badminton	Football	Cricket
Boys	30	50	80	70
Girls	20	60	40	30

Ans: 1 mark for each bars ✓

29. Case Study-1

Veena, Sania and Kaniha are friends. They share their toys with each other while playing. Veena has some marbles. Sania has 10 more marbles than Veena has. Kaniha has 3 less than two times the marbles which Veena has. Based on this information answer the following questions:

I.	If Veena has ' x ' marbles, write the expression for the number of marbles Sania has.						
A		B		C ✓ $x + 10$	D		
II.	Write the expression for the number of marbles Kaniha has.						
A		B	✓ $2x - 3$	C		D	
III.	After sometime Karan joined with them for playing. He says that he has 6 marbles more than five times the number of marbles Veena has. If Karan has 36 marbles and Veena has x number of marbles, write the equation to represent the statement.						
A		B		C		D	✓ $5x + 6 = 36$
IV.	After finished playing they wanted to eat some candies. Kaniha said that there are $(3y + 5)$ candies on the table. If $y = 4$, then what is the number of candies on the table.						
A		B	✓ 17	C		D	

Case Study-2

Miya was making a toy butterfly with sticks for her younger sister. She arranged the sticks as shown in figure. AB and CD are two sticks intersecting at O and a third stick OP is also joined to hold the toy butterfly. From the figure $\angle BOC = 70^\circ$ and $\angle DOP = 55^\circ$. Based on the above information answer the following questions:

I	What is the value of $\angle AOD$.					
A		B		C ✓ 70°	D	
II	The angles $\angle AOC$ and $\angle BOD$ are _____					
A		B		C		D ✓ Vertically opposite angles
III	Which of the following is adjacent supplementary angles?					
A	✓ $\angle AOC$ & $\angle COB$	B		C		D
IV	What is the value of $\angle POB$?					
A		B		C ✓ 55°	D	