



Unified International
Mathematics Olympiad

UNIFIED INTERNATIONAL MATHEMATICS OLYMPIAD (UPDATED)

CLASS - 5

Question Paper Code : UM9267

KEY

1	2	3	4	5	6	7	8	9	10
B	B	D	A	B	C	B	B	B	B
11	12	13	14	15	16	17	18	19	20
D	A	A	A	A	B	Delete	B	C	B
21	22	23	24	25	26	27	28	29	30
B	A	D	A	C	C	C	B	A	A
31	32	33	34	35	36	37	38	39	40
C	B	C	A	B	D	C	D	B	B
41	42	43	44	45	46	47	48	49	50
B	B	A	B	C	A	D	B	B	C

EXPLANATIONS

MATHEMATICS

01. (B) Boys

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 } ?
Girls

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Boys = $8 + 16 = 24$

Girls = 8

Total = $24 + 8 = 32$

02. (B) No. of marbles with John = More than 50
but less than 60

The no. of marbles between 50 and 60,
he divide equally into 2 groups or into 3
groups i.e., 54.

03. (D) 1

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 = 1 cm^2 ; 2

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 = 1 cm^2

Area of the shaded part

= 4

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 + 8

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= $4 \text{ cm}^2 + 4 \text{ cm}^2 = 8 \text{ cm}^2$

The area of the shaded part of this square
is 8 cm^2

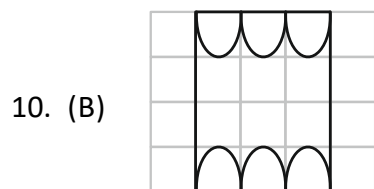
04. (A) 49.4
05. (B) The time Naren family watched a movie at = 22:35 i.e., 10:35 pm
Duration of the movie = 2 h 35 min
 $10:35 + 2 \text{ h } 35 \text{ min} = 12 \text{ h } 70 \text{ min}$
 $= 1 \text{ h } 10 \text{ min}$
Time taken to reach home
 $= 2 \text{ h } 10 \text{ min} - 1 \text{ h } 10 \text{ min}$
 $= 1 \text{ hour}$

06. (C) $2\frac{5}{8} = \frac{21}{8} = 2.625$

07. (B) Image A = 13 cubes
Image B = 11 cubes
i.e., to make both the images equal, need to remove 2 cubes from image A

08. (B) $6\% \times 400 = \frac{6}{100} \times 400 \times \frac{1}{10} \times 10$
 $= \frac{6}{1000} \times 4000$
 $= 0.006 \times 4000$
 $= \frac{6}{1000} \times 4000$
 $= 0.006 \times 4000$

09. (B) Given length of a rectangle = 18 cm
Length of a square = $18 \div 3 = 6 \text{ cm}$
Area of a square = $6 \times 6 = 36 \text{ cm}^2$
Area of the rectangle = $36 \times 5 = 180 \text{ cm}^2$



11. (D) $48.015 = 40 + 8 + \frac{0}{10} + \frac{1}{100} + \frac{5}{1000}$
 $= 40 + 8 + \frac{1}{100} + \frac{5}{1000}$

12. (A) Capacity of 1 packet of milk = 250 ml
Amount of milk leaked from the packet every day = 5 ml
Number of days it take for the packet to be empty = $250 \text{ ml} \div 5 \text{ ml} = 50 \text{ days}$

13. (A) Amount paid by Farah for 3 books and 6 pencil boxes = ₹65.70
Cost of pencil box is ₹11.40 cheaper than a story book

So, 3 story books = $\text{₹}11.40 \times 3 = \text{₹}34.20$
 $= \text{₹}65.70 - \text{₹}34.20 = \text{₹}31.5$

Total items = 9

$\Rightarrow \text{₹}31.5 \div 9 = \text{₹}3.5$

So, cost of 1 pencil box = ₹3.5

Cost of 1 story book = $\text{₹}3.5 + \text{₹}11.40$
 $= \text{₹}14.9$

14. (A) Length of a ribbon required to make a bow = 15.7 cm

Length of a ribbon required to wrap a present = $15.7 \text{ cm} \times 3 = 47.1 \text{ cm}$

Length of a ribbon required altogether = $47.1 \text{ cm} + 15.7 \text{ cm} = 62.8 \text{ cm}$

15. (A) Sum of $\frac{3}{4}$ of 800 and $\frac{3}{4}$ of 100

$= \frac{3}{4} \times \frac{200}{800} + \frac{3}{4} \times \frac{25}{100}$

$= 600 + 75 = 675$

16. (B) Rounding off each number of the nearest ten

$13455 \rightarrow 13460$

$4567 \rightarrow 4570$

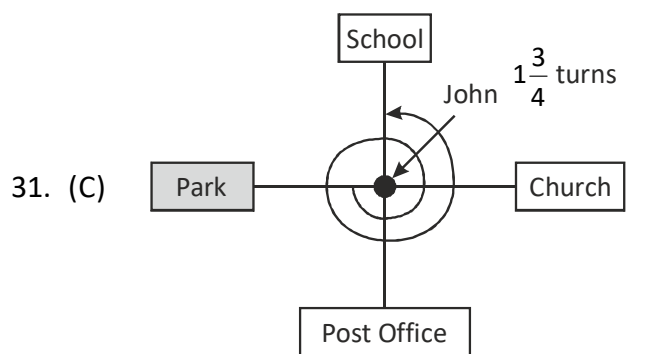
$= 13460 - 4570 = 8890$

17. Delete

18. (B) Number of brooms sold = $\frac{2}{3} \times 105 = 70$
 $70 \times ₹ 70 = 4900$
 ₹4900 was collected from the sale of the brooms
19. (C) Rope A : 12 pieces $\rightarrow 2$ m
 1 piece $\rightarrow \frac{2}{12} = \frac{1}{6}$ m
 4 pieces $\rightarrow \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{4}{6} = \frac{2}{3}$ m
 Rope B : 8 pieces $\rightarrow 16$ m
 1 piece $\rightarrow 16 \div 8 = 2$ m
 2 pieces $\rightarrow 2 \times 2 = 4$ m
 Total length = $\frac{2}{3} + 4 = 4\frac{2}{3}$ m
20. (B) Time = $\frac{\text{Distance}}{\text{Speed}} = \frac{90}{45} = 2$ hours
21. (B) 9.65, 8.298, 5.97, 0.23 is in descending order.
22. (A) Between 8 AM to 12 noon the rise in temperature is maximum
23. (D) 1 m = 100 cm
 $986 \text{ cm} = 986 \div 100 = 9.86 \text{ m}$
24. (A) 1 cup = 175 gm
 In 1 kg, 2 cups of sugar is added
 So, in 6 kg 12 cups of sugar will be added
 $12 \times 175 = 2100 \text{ gm} = 2.1 \text{ kg}$
25. (C) P = Intersection, Q = 2, R = Perpendicular
26. (C) Either 999 (or) Greatest 3-digit number
27. (C) If May 1st is a Tuesday, then the 7th, 14th, 21st and 28th would be Mondays (i.e., 4 Mondays). So, May 1st could not be a Tuesday
28. (B) $7 \times 17 \times 17 = 2023$

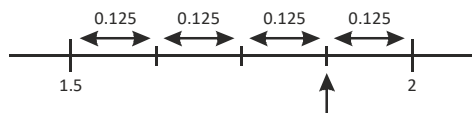
29. (A) Cost price of goods = ₹900 + ₹225
 = ₹1125
 Selling price = ₹2000
 Profit = S.P – C.P
 = ₹2000 – ₹1125 = ₹875 is her profit.

30. (A) Bucket P holds = 10 l
 Bucket Q holds = 10 l – 3 l 460 ml
 = 10000 ml – 3460 ml = 6540 ml
 Bucket R = 6540 ml + 4 l 720 ml
 = 6540 ml + 4720 ml
 = 11260 ml = 11 l 260 ml



- Mark $1\frac{3}{4}$ turns right or a $\frac{3}{4}$ turn to the left to get the 'before' position, which is the school
32. (B) Length of the garden = area \div breadth
 = $333 \div 9$
 = 37 m
 Perimeter of the garden = $2 \times (37 \div 9)$
 = 92 m
 A company charge ₹ 450 for 1 m
 $92\text{m} = ₹ 450 \times 92 = ₹ 41400$

33. (C)



$$\begin{array}{r} 0.125 \\ 4 \overline{) 0.500} \\ \underline{-4} \\ 10 \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

$$2 - 1.5 = 0.5$$

$$4 \text{ divisions} \longrightarrow 0.5$$

$$1 \text{ division} \longrightarrow 0.5 \div 4 \\ = 0.125$$

$$3 \text{ divisions} \longrightarrow 3 \times 0.125 \\ = 0.375$$

The number corresponding to the arrow is $(1.5 + 0.375 =) 1.875$

34. (A) Only l_2 is a line of symmetry. When the figure is folded along l_2 . It forms a mirror image of the portion. (This is not true for other lines.)

35. (B) $= 13 + 15 \\ = 28$

$$\text{Cross} + \text{Cross} + 12 = 28$$

$$\text{Cross} + \text{Cross} = 28 - 12 \\ = 16$$

$$\text{Cross} = 16 \div 2 \\ = 8$$

REASONING

36. (D) 6, 7, 8, 9, 10 shapes are mirror images of 1, 2, 3, 4, 5 shapes respectively.

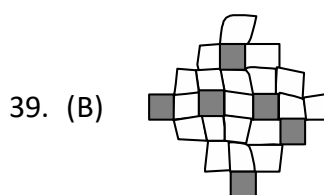
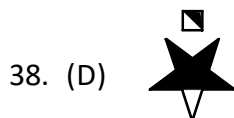
37. (C) $7 + 8 = 15$ [$\# = +$]

$$31 - 12 = 19$$
 [$@ = -$]

$$9 \times 4 = 36$$
 [$\& = \times$]

$$15 + 12 = 27$$
 [$\$ = +$]

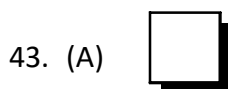
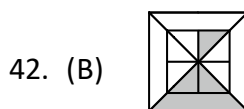
$\therefore \#$ and $\$$ represents same mathematical operation.



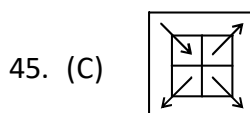
40. (B) FORTY is spelled in alphabetical order.

41. (B)

C	O	L	O	U	R	F	U	L
#	@	3	@	©	♣	>	©	3

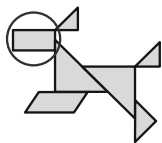


44. (B) Bindu's rank is 8th from last means
 $30 - 8 + 1 = 23^{\text{rd}}$ from front
 Sindhu is 7 ranks ahead of Bindu
 $23 - 7 = 16^{\text{th}}$ rank
 Sindhu's rank from start = 16th



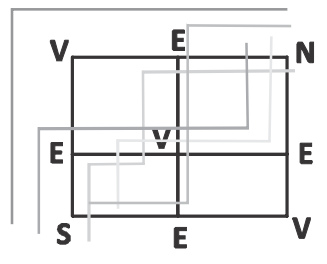
CRITICAL THINKING

46. (A) From the given statement, we can say that there are some drinks which are not Coke. Clearly option (A) is correct.
47. (D) Rectangle is used in option(D) animal only.



48. (B) Three hens and a cow have
 $3 \times 2 + 4 = 10$ feet
The number must be divisible by 10
i.e. 30
dog has 4 legs
 $30 + 4 = 34$

49. (B) October has 31 days. Using information 2, numbers from 1 to 31 that when divided by 7 gives a remainder of 3 are 3, 10, 17, 24 and 31, and numbers from 1 to 31 that when divided by 5 gives a remainder of 1 are 1, 6, 11, 16, 21, 26 and 31. Only possible answer is 31. Hence, question can be answered using only information 2.



50. (C)

==== The End =====