



Unified International  
Mathematics Olympiad

**UNIFIED INTERNATIONAL MATHEMATICS OLYMPIAD (UPDATED)**

**CLASS - 3**

**Question Paper Code : UM9264**

**KEY**

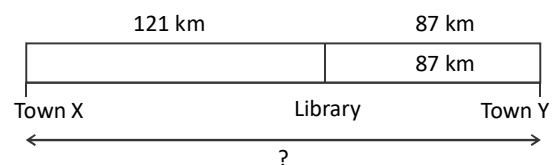
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
B	C	C	D	A	B	B	B	B	D
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
D	C	B	B	A	C	D	B	B	A
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>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

**EXPLANATIONS**

**MATHEMATICS**

01. (B)  $2185 - 799 = 1386$
02. (C) Amount with 3 members = ₹4827  
Amount with Farah = ₹1874  
Amount with Roshni = ₹1874  
Total amount with Farah and Roshni  
= ₹1874 + ₹1874 = ₹3748  
Amount Sony have  
= ₹4827 - ₹3748 = ₹1079  
Difference between Roshni and Sony  
= ₹1874 - ₹1079 = ₹795

03. (C)









$$121 \text{ km} + 87 \text{ km} = 208 \text{ km}$$

The total distance between Town X and Town Y is 208 km


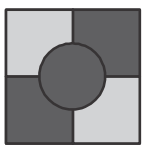
04. (D)  $\frac{1}{4} = \frac{4}{16}$
05. (A)  $3\text{ l } 500\text{ ml} = 3500\text{ ml}$   
Capacity of a bucket =  $3500 \div 5$   
 $= 700\text{ ml}$
06. (B)  $4535 - 4507 = 28$   
Missing number =  $4507 - 28 = 4479$
07. (B) Total = 207  
Number of adults in the concert = 180  
Number of children =  $207 - 180 = 27$   
Number of men =  $27 + 30 = 57$   
Number of women =  $180 - 57 = 123$
08. (B) Except Saturday and Sunday Naina works for 20 days in the month of February
09. (B) The digit 5 appears exactly 16 times are :  
5, 15, 25, 35, 45, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64.  
So the maximum number of pages the book can have = 64
10. (D) No. of cakes sold on Monday = 396  
No. of cakes sold on Tuesday =  $396 + 370 = 766$
11. (D) Option (D) shows  $\frac{2}{3}$  of the shape shaded.
12. (C) Distance from the floor to the ceiling = 328 cm  
Height of Pihu = 159 cm  
Height of the ladder =  $328\text{ cm} - 159\text{ cm} = 169\text{ cm}$
13. (B) Mass of Mrs. Chaya = 50 kg  
Mass of her son =  $50\text{ kg} \div 5 = 10\text{ kg}$
14. (B) No. of cookies with ved = 50  
No. of cookies he ate = 2  
No. of cookies left =  $50 - 2 = 48$   
No. of cookies he packs in each bag = 4  
No. of bags =  $48 \div 4 = 12$
15. (A) Adding 4 to each number in 1<sup>st</sup> row to get 2<sup>nd</sup> row number.  
 $12 + 4 = 16$ ,  $6 + 4 = 10$ ,  $3 + 4 = 7$ ,  $5 + 4 = 9$ ,  $7 + 4 = 11$   
 $a = 7$ ,  $b = 9$
16. (C) No. of parts the dough divided into = 4  
No. of parts Devi used = 3  
Fraction of dough Devi used =  $\frac{3}{4}$
17. (D) 17 legs = 8 legs + 9 legs  
8 legs =  $4 + 4$   
9 legs =  $3 + 3 + 3$   
= 2 chairs and 3 stools
18. (B) 2 triangular and 3 rectangular surfaces
19. (B)  $372 + 518 = 890$   
 $890 - 50 = 840$
20. (A)  $5 \star = 10 \Rightarrow \star = 10 \div 5 = 2$   
 $3 \triangle = 6 \Rightarrow \triangle = 6 \div 3 = 2$   
Then  $\star \star + \triangle \triangle$   
 $= 2 \times 2 + 2 \times 2 = 4 + 4 = 8$
21. (C)  $6 \times 6 + 12 + 12 + 12 = \underline{\hspace{2cm}} \times 6$   
 $36 + 12 + 12 + 12 = \underline{\hspace{2cm}} \times 6$   
 $72 = \underline{\hspace{2cm}} \times 6$   
 $= 72 \div 6 = 12$
22. (D) Mass of a sugar packet = 520 g  
9 packets =  $520 \times 9 = 4680\text{ g} = 4\text{ kg } 680\text{ g}$
23. (C)  $3:45 \xrightarrow{+20\text{min}} 3:65 \longrightarrow 4:05$   
(correct time now)  
 $4:05 \xrightarrow{+1\text{h}} 5:05 \xrightarrow{+25\text{min}} 5:30$
24. (D)  $\frac{6}{12} = \frac{6 \div 2}{12 \div 2} = \frac{3}{6}$




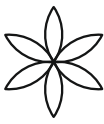
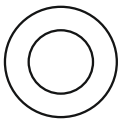

25. (A) Quantity of juice in 9 glasses  $\rightarrow 9 \times 200 = 1800 \text{ ml}$   
 Total quantity of juice poured out  $\rightarrow 1850 + 1800 = 3650 \text{ ml}$   
 Quantity of juice left  $\rightarrow 10000 - 3650 = 6350 \text{ ml}$   
 $= 6 \text{ l } 350 \text{ ml}$
26. (B)  $\boxed{+8} \xrightarrow{\times 5} 40 \xrightarrow{+8} 48 \xrightarrow{\div 6} 8 \xrightarrow{-5} 3$   
 So, missing number = 8
27. (A) 1 rupee = 100 paise  
 ? = 6400 paise  
 $6400 \div 100 = 64$  rupees
28. (D) 14, 26, 38, 50, 62, 74  
 They give a remainder of 2 when divided by 3  
 $14 \div 3 = Q = 4, R = 2$   
 $26 \div 3 = Q = 8, R = 2$   
 $38 \div 3 = Q = 12, R = 2$   
 $50 \div 3 = Q = 16, R = 2$   
 $62 \div 3 = Q = 20, R = 2$   
 $74 \div 3 = Q = 24, R = 2$
29. (B)  $4730 + 120 = 4850$   
 $4850 \div 10 = 485$
30. (B)  $\frac{3}{7}$
31. (C) Difference between  $8121 - 1249 = 6872$   
 The value of digit 8 in 6872 = 800
32. (B) Cost of a camera = ₹220  
 Cost of a mobile phone  
 $= ₹220 \div 4 = ₹55$   
 Cost of 2 mobile phones  
 $= ₹55 \times 2 = ₹110$
33. (B)  $3:30 \text{ pm} + 1 \text{ hr } 30 \text{ min}$   
 $= 4 \text{ hrs } 60 \text{ min} = 5:00 \text{ clock} = 5:00 \text{ pm}$
34. (C)  $100 \text{ mm} < 50 \text{ cm} < 2 \text{ m}$   
 So, ascending order is 100 mm, 50 cm, 2 m

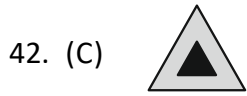
35. (A)  $15 = 6 +$    
  $= 15 - 6 = 9$   
  $\times$    $= 45$   
 $9 \times$    $= 45$   
  $= 45 \div 9 = 5$

### REASONING

36. (B) 

	H
G	E
37. (C) Rain is only in liquid form mist, cloud and vapour are in gaseous state.
38. (A) 
39. (A) 

$\times$	$\infty$	
	$\times$	$\infty$
$\times$		$\infty$
40. (A) There are ten small squares  
 two  $2 \times 2$  squares = 2  
 two  $3 \times 3$  squares = 2  
 $10 + 2 + 2 = 14$
41. (C)   $+$    $=$  



43. (D) April, August, January, July, June  
 1 2 3 4 5

∴ 3<sup>rd</sup> word is January

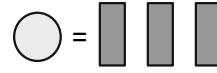
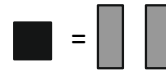
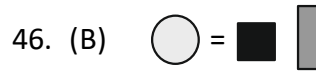
44. (B) Number 2 belongs to group Q.

Group (P)	Group (Q)
03 09 11 15	<u>02</u> 03 04 05
17 13 31	06 07 08 09
33 35 37	10 11 12 13
Group (R)	Group (S)
01 05 15 25	07 21 29
35 45 55	35 49 47
51 53 57	43 51 91

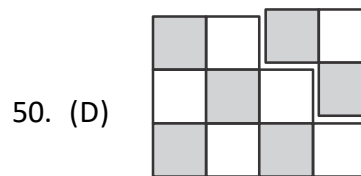
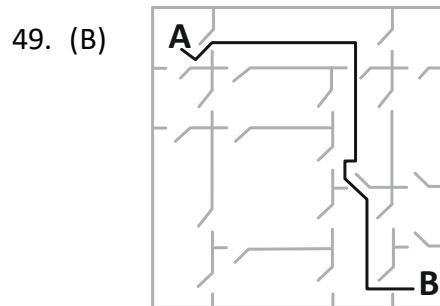
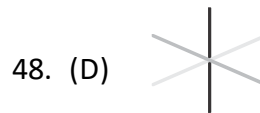


Second image is the mirror of first image.

**CRITICAL THINKING**



47. (D) The first four balls might be black in the worst rare situation. I need to take 4 + 2 = 6 balls.



==== The End ====