MENTAL MATHS COMPETITION

: Organísed by :

GLOBAL MATHS SCIENCE EDUCATION®

in association with Math Vision PTE Ltd., Singapore

MOCK TEST

Std. : 6
(Father)
Total No.of questions : 50
MR sheet. o provide pupils with optimum explosure to Mental Maths. to build calculation skills. Each question carries 1 mark. mental concept covered in topic listed below. Each high order thinking skills. Each question carries 4 marks. en alongwith given two Mock papers in this booklet. rmat in mock paper & extra practice questions.
 Percentage, Profit & Loss, Average Triangles (Equilateral, Isosceles, Scalene, Angle Property) Squares of a number from 2 to 35, Cubing from 1 to 15 Integers (+, -, ×, ÷) Ratio & Proportion, Unitary Method Metric System Symmetry

	•				
	Мо	ck Paper - 1		SECTION - 1	
1.	35210 less tha	an 75634	7.	18)9468	
	=			(a) 425	(b) 526
	(a) 44024	(b) 40224		(c) 525	(d) 536
	(c) 40442	(d) 40424			
2.	6785 more tha	an 56789	8.	(16)144) + (14 × =	$3) - (11)\overline{99})$
	=			(a) 53	(b) 48
	(a) 63574	(b) 62574		(c) 43	(d) 42
	(c) 65374	(d) 63474			
3.	(5246 – 1259)	+ (3127) =	9.	[9×9] – [4×17] – [9 × 15]
0.	(a) 7116	(b) 7104		(a) –122	(b) 136
	(c) 7114	(d) 3987		(c) –136	(d) 122
4.	3 A 4 2 + 5 3 1 E	3	10.	$\frac{48}{112} = \frac{3}{\Box}$ The missing nu	mber is
	92C1			(a) 9	(b) 6
	A + B + C =			(c) 7	(d) 8
	(a) 21	(b) 22			(0) 0
	(c) 23	(d) 24		9 4 12	
			11.	$\frac{9}{8} \times \frac{4}{18} \div \frac{12}{9} = \boxed{\square}$	
5.	2419 is ?	hundreds			3
	more than 121	.9.		(a) $\frac{1}{3}$	(b) $\frac{3}{16}$
	(a) 1200	(b) 12		(c) $\frac{16}{3}$	1
	(c) 120	(d) 100		(c) ${3}$	(d) $\frac{1}{16}$
6.	456			2	
	× 368		12.	$3\frac{2}{5} \times 45 =$	
				(a) 136	(b) 157
	(a) 167708	(b) 166808		(c) 143	(d) 153
	(c) 168707	(d) 167808			

Men	ital Maths Competiti	on®	2		Std : 6
13.	(One third of 15	56) – $\left(\frac{1}{4} \text{ of } 324\right)$) 20.	4.5 – 19.682	+ 32 =
	=			(a) 16.818	(b) 16.808
	(a) –29	(b) –19		(c) 16.881	(d) 16.819
	(c) 39	(d) 29			
14.	Square of 26 – 3 =	Square of 17			
	(a) 81	(b) 285			
	(c) 390	(d) 387			
15.	Cube of 9 + Cu	be of 8 =			
	(a) 1342	(b) 1341			
	(c) 1241	(d) 1242			
16.	The sum of divi	sors of 48 is			
	 (a) 118	(b) 124			
	(c) 116	(d) 114			
17.	$9l375\mathrm{ml}=2l$	820 ml +			
	(a) 6.555 <i>l</i>	(b) 12.195 <i>l</i>			
	(c) 7.655 <i>l</i>	(d) 7.250 ml			
18.	The next numb	er in the			
	series is				
	73, 102, 160, 2				
	(a) 510	(b) 506			
	(c) 508	(d) 518			
19.	$\sqrt{225} \div \sqrt{9} = $				
10 .	(a) 2	(b) 3			
	(a) 2 (c) 4	(d) 5			
			I.		

		SECTI	(ON -	п	
21.	A – 4206 = 5523 A = B + 729 Find the value of (a) 9000 (c) 8900		28.	The sum of all p of 180 is = (a) 12 (c) 8 24% of 750 =	- (b) 10 (d) 9
22.	4[-21 + {5 - 6(- (a) 186 (c) 156	7 – 3)}] = (b) 166 (d) 176	30.	(a) 180 (c) 190 In 7 innings Sur	(b) 160 (d) 170
23.	[84 ÷ (-12)] ÷ [14 (a) 8 (c) 7	$4 \times -4] =$ (b) $\frac{1}{8}$ (d) $\frac{1}{7}$		25, 37, 55, 3, 60 His average sco (a) 51 (c) 46	
24.	$7.84 \times 0.07 =$ (a) 54.88 (c) 0.5488	(b) 5.488 (d) 0.05488	31.	543 decalitre = (a) 543000 (c) 54.3	centilitre (b) 0.543 (d) 543000
25.	$11.2 \div 0.16 =(a) 0.7$ (c) 0.07	(b) 7 (d) 70	32.	[5 ² + 7 ² + 11 ²] - (a) 117 (c) 151	$\left[\sqrt{576}\right] =$ (b) 171 (d) 161
26.	The L.C.M of 15 (a) 360 (c) 216	, 18 and 24 is (b) 260 (d) 316	33.	The measure of 32.5°. Find the its complementa	measure of ary angle (b) 58.5°
27.	The H.C.F of 12 (a) 0 (c) 1	, 16, 23 is (b) 2 (d) 23		(c) 56.5°	(d) 147.5°

Men	tal Maths Competiti	on [®] '	4		Std : 6
34.	The length of co sides of isoscele 14.7 cm and pe cm. The length cm (a) 11.6 (c) 10.6	es triangle is primeter is 40	39.	Which of the fo Roman numer number obtain is multiplied b (a) MDCCCLX (c) MDCCCLIX	ral for the ned when 143 by 13 ? (b) MDCCCLXI (d) MDCCLIX
35.	3.5 – x + 4.05 = the value of 'x'. (a) 1.545 (c) 1.6	6.005, find (b) 1.095 (d) 2.095	40.	How many line does the given	es of symmetry figure have ?
36.	Perimeter of rec Length = 50 m, Breadth = ? (a) 80 m (c) 55 m	tangle = 170 m (b) 35 m (d) 60 m		(a) 0 (c) 2	(b) 1 (d) 4
37.	Write the algebra for the statement the quotient of equals 2. (a) $6 - \frac{x}{3} = 2$ (c) $3x - 6 = 2$	nt, 6 less than			
38.	If ₹760 is divide Ramesh & Sure 8:11, what is Su	sh in the ratio			

(a) ₹440 (b) ₹320

(c) ₹552.5 (d) ₹420

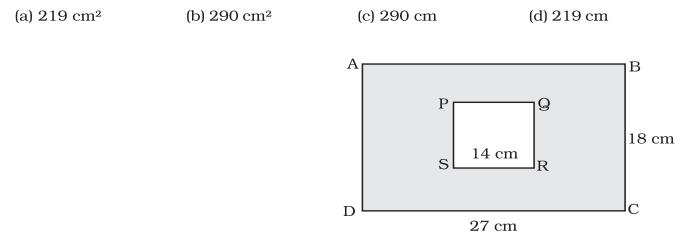
	SECTION - III				
41.	A car travels 81	km in 3 hours. W	hat is the distanc	e that it travels	
	in 5 hours ?				
	(a) 27 km	(b) 135 km	(c) 153 km	(d) 125 km	
42 .	Area of a square	is 625 m². Find i	ts perimeter ?		
	(a) 125 m	(b) 120 m	(c) 80 m	(d) 100 m	
43.	A square table seat 8 people with 2 persons on each side. If 20 such tables are put end to end in a row, how many people can be				
	seated ?				
	(a) 84	(b) 48	(c) 74	(d) 88	
44.	Rope X is 23.2 n	0			
	Rope Y is $\frac{3}{4}$ of Rope X.				
	Rope Z is $\frac{1}{6}$ the	length of Rope Y.			
	Find the total le	ngth of the 3 rope	es in metres		
	(a) 43.05 m	(b) 43m	(c) 43.5 m	(d) 43.55 m	
45 .	(0.74 + 0.46) × (0	0.07 - 0.5 + 0.59)	=?		
	(a) 192	(b) 0.192	(c) 1.92	(d) 0.0192	

46. The figure shown is made up of similar small squares. If the area of the figure is 216 cm², then its perimeter is _____

(a) 56 cm		
(b) 6 cm		
(c) 120 cm		
(d) 60 cm		J

47.
$$\frac{\sqrt{m}+6}{4} = 11 - 4$$
, find the value of m
(a) 484 (b) 22 (c) 441 (d) 24

- 48. Kiran has scored 85 marks in his English test, but he has the same score for his History and Maths paper. If his average score for 3 subjects is 87 marks. What score does he get for the Maths test ?
 (a) 85 (b) 86 (c) 87 (d) 88
- **49.** In the given figure ABCD is a rectangle and PQRS is a square. Find the area of the shaded portion.



50. Mohan read $\frac{1}{4}^{th}$ of a book. If he read further 91 pages, he would have read $\frac{3}{5}^{th}$ of the book. How many pages were there in the book? (a) 260 (b) 206 (c) 216 (d) 264

	М	ock Paper -	2	Section - 1	
1.	45673 less tha	n 83473	7.	23)5382	
	=			(a) 238	(b) 134
	(a) 38800	(b) 36800		(c) 234	(d) 236
	(c) 38700	(d) 37800			
			8.	(19)133)+(17×	(12) = (12) =
2.	5798 more that	n 37429		_	(1) = (1) = 1
	=				
	(a) 43227	(b) 42327		(a) 65 (c) 95	(b) 75 (d) 85
	(c) 41227	(d) 42227		(C) 95	(u) 85
			9.	[7 × 8] – [16 × 7] – [8 × 14]
3.	(6721 - 1234) +	- (2987)		(a) -168	(b) -158
	=			(c) 158	(d) 168
	(a) 8274	(b) 8374			
	(c) 8375	(d) 8474	10	36 _ 🗌	
	_		10.	$\frac{1}{132} - \frac{1}{22}$	
4.	5 B 3 9			The missing nu	mber is
	+ <u>3</u> 7 <u>C</u> 4			(a) 6	(b) 5
	A 2 0 3			(c) 4	(d) 3
	A + B + C =				
	(a) 18	(b) 17	11.	$\frac{7}{9} \times \frac{36}{28} \div \frac{6}{5} = \frac{1}{1}$	
	(c) 21	(d) 19		9 28 5	
_				(a) $\frac{6}{5}$	(b) $\frac{5}{6}$
5.	3781 is h				
	more than 168			(c) $\frac{4}{7}$	(d) $\frac{7}{6}$
	(a) 19	(b) 22			6
	(c) 21	(d) 23		0	
6.	374		12.	$4\frac{3}{7} \times 77 = $	
	× 647			(a) 141	(b) 241
				(c) 341	(d) 441
	(a) 231978	(b) 240978			
	(c) 214978	(d) 241978			

Men	tal Maths Compe	tition [®]	8		Std : 6
13.	(One fifth of 1 of 436) = (a) 74 (c) -54	1 75) – (Quarter 	20.	17.6 + 36.4 (a) 1.52 (c) 15.02	42 - 39 = (b) 15.2 (d) 15.002
14.	=	+ Square of 14			
	(a) 752 (c) 762	(b) 772 (d) 712			
15.	Cube of 9 – 6	Cube of 11			
	(a) –702 (c) –602	(b) 602 (d) 502			
16.	The sum of divisors of 56 is				
	(a) 120	(b) 130			
	(c) 140	(d) 110			
17.	11 kg 438 g =	+ 3 kg 147 g			
	(a) 8.091 kg (c) 8.191 kg	(b) 8.391 kg (d) 8.291 kg			
18.	The next nur series is				
	87, 124, 198	, 346,			
	(a) 632	(b) 652			
	(c) 602	(d) 642			
19 .	$\sqrt{324} \div \sqrt{36}$	=			
	(a) 2	(b) 3			
	(c) 4	(d) 1			

		SEC	rion -	2)
21.	A – 3679 = 24	19	28.	The sum of al	ll prime divisors
	A = B + 861			of 220 is	_
	Find the value	e of B		(a) 22	(b) 16
	(a) 5237	(b) 5137		(c) 18	(d) 20
	(c) 5037	(d) 5337			
			29.	35% of 680 =	:
22.	5[-11 + {9 - 7(-13 - 3)}] =	_	(a) 218	(b) 228
	(a) 115	(b) –550		(c) 238	(d) 248
	(c) 550	(d) –115			
			30.	In 6 innings l	Ramesh scored
23.	[91 ÷ (-13)] ÷ [$-17 \times -7] = $	_	36, 72, 90, 4,	, 0, 14.
	(a) $\frac{1}{17}$	(b) 17		His average s	score is
	^(a) 17			(a) 26	(b) 24
	(c) 7	(d) $-\frac{1}{17}$		(c) 46	(d) 36
				700 1	1.1
24.	0.198 × 1.9 =		31.		e = kilometre
	(a) 0.3762	(b) 0.3672		(a) 0.0793	(b) 0.00793
	(c) 3.762	(d) 37.62		(c) 7.93	(d) 0.793
25	0.144 ÷ 2.4 =		32.	$[9^2 - 6^2 + 13^2]$	$] - [\sqrt{625}] =$
25.		(h) () ()		(a) 169	(b) 189
	(a) 0.66 (c) 0.06	(b) 0.6 (d) 0.006		(c) 199	(d) 179
	(c) 0.00	(u) 0.000			
26.	The L.C.M of 1	6, 28 , 32	33.	The measure	of an angle is
	is			$\left(47\frac{1}{2}\right)^{\circ}$ Find the	ne measure of
	(a) 204	(b) 214		(14). 1 1114 4	
	(c) 234	(d) 224		its suppleme	ntary angle
27.	The H.C.F of 1	4, 21, 49 is		(a) $\left(134 \frac{3}{4}\right)^{\circ}$	(b) $\left(131\frac{4}{3}\right)^{\circ}$
				(c) 132.75°	(d) 133.25°
	(a) 9	(b) 6			
	(c) 5	(d) 7			

34.	The length of	fcongruent	39.	Which of the fo	llowing is the
	sides of isosceles triangle is 27.9 cm and perimeter is			Which of the following is the Roman numeral for the	
				number obtain	
		e length of 3 rd		is added to 172	
	side is cm	0		(a) MMCDXCVI	
	(a) 10.7	(b) 11.7		(c) MMCDXCVII	
	(c) 12.7	(d) 9.7			
			40.	How many line	s of symmetry
35.	14.6 - y + 9.0	08 = 16.07, find		does letter M h	as?
	the value of '	y'.		(a) 2	(b) 1
	(a) –7.61	(b) 8.31		(c) 3	(d) 4
	(c) -8.31	(d) 7.61			
36.	Perimeter of s	square = 154 cm			
	its each side	-			
	(a) 36.5	(b) 28.5			
	(c) 38.5	(d) 35.5			
37.	Write an alge	ebraic expression			
	for the stater	nent, product of			
	x and 7 subt	racted from			
	Twelve.				
	(a) 12 + 7 x	(b) 12 – 7x			
	(c) 7x – 12	(d) 5x			
38.	If ₹ 1080 is d	livided between			
	Vikas & Akas	sh in the ratio			
	7 : 8, what is	Vikas share ?			
	(a) ₹504	(b) ₹ 576			
	(c) ₹514	(d) ₹566			

..10..

Std : 6

SECTION - 3

- **41.** In a group of 128 pupils, $\frac{3}{8}$ of them wear glasses. Of these $\frac{1}{4}$ were girls and rest are boys. How many boys in a group wearing glasses ? (a) 24 (b) 48 (c) 12 (d) 36
- 42. The expenses for maintenance of a Goat, Cow and a Horse are in the ratio 1 : 5 : 7. If the total expenses are ₹1560, then find the expenses for maintenance of a Cow ?
 (a) ₹600 (b) ₹840 (c) ₹120 (d) ₹650

43. The length of a rectangle is twice its breadth and the area of rectangle is 98 sq m. What is the length of rectangle ?
(a) 7 (b) 14 (c) 8 (d) 16

44. Find the value of $\sqrt{39} - \sqrt{(14 \div 2) + \sqrt{4}} = ?$ (a) 5 (b) 7 (c) 6 (d) 4

45. The average of given numbers 13, 17, 19, \bigotimes , 29 is 20. Find the number in place of \bigotimes . (a) 22 (b) 23 (c) 25 (d) 27

46. Solve : $[167 + 2\{23 \times (-3) - 7 (48 \div 3 - 14)\}]$ (a) 0 (b) 1 (c) 2 (d) -1

47. Angles of a triangle have measures (x + 40)°, (2x + 20)° and (3x)°. The triangle is _____

(a) scalence (b) right (c) equilateral (d) Isosceles

48. Sum of 10% of 330 and 20% of 75 subtracted from 25% of 208 is (a) 100 (b) 4 (c) -4 (d) 3

49. A dealer buys a wrist watch for ₹2025 and spends ₹175 on its repairs. If he sells the same for ₹2596, then his profit percent is
(a) 18%
(b) 28%
(c) 16%
(d) 8%

50. A typist can type 400 words in half an hour. The number of words typed in 24 minutes is ____?
(a) 160 (b) 640 (c) 320 (d) 420

1. If a = 3, b = 2 and c = -4, find the value of $3ab - 2b^2 + 4abc$? (a) 86 (b) -76 (c) 76 (d) -86

A picture is 60 cm wide and 1.8 m long. The ratio of its width to its perimeter in lowest form is _____?
(a) 1:2
(b) 1:3
(c) 1:6
(d) 1:8

3. 252 kg of apples are to be packed in bags of 5kg and 2kg. If the same number of 5 kg and 2 kg bags are to be used, how many bags will be required in all ?

(a) 36 bags (b) 54 bags (c) 72 bags (d) 104 bags

A shephard has some Goats and Sheeps. The total number of Goats and Sheeps he has is 105. Which of the following cannot be the ratio of the number of Goats to the number of Sheeps ?
(a) 1:5
(b) 1:4
(c) 10:11
(d) 2:5

5. In the given diagram, numbers into the opposite triangles are related in the same way. Which of the below equations shows relationship between x and y? $\sqrt{57}$

(a) $x + 3 = y$	(b) $x = 3 \times y$
(c) $x = y + 2$	(d) none of these

- 6. Divide 0.42 by 2.8? (a) 0.0015 (b) 15 (c) 0.015 (d) 0.15 7. $9.6 \div 12 + 0.32 \times 10 - 1.1 =$
- (a) 2.77 (b) 2.9 (c) 3.5 (d) 5.1

8. The square plot has a side 80 m long. Find the cost of levelling it at ₹6.50 per sq.metre ?

(a) ₹ 0.4160 (b) ₹ 41.60 (c) ₹	₹41600 (d)₹4	4160
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51

Men	ital Maths Compet	ition [®]	14	Std : 6
9.	What is the 6^t	^h term of the s	sequence shown	?
	80, 40, 20,	,,		
	(a) 1	(b) 5	(c) $1\frac{1}{4}$	(d) $2\frac{1}{2}$
10.	formed by usi	ng 0, 1, 2, 3 a	and 4 only once.	numbers of five digits
	(a) 30870	(b) 30906	(c) 31176	(d) 32976
11.	Which of the f (a) $7 \div 7 + 7 \times 7 = 1$ (c) $7 \times 7 \div 7 + 7 = 1$	50	ession is correct (b) 7 + 7 ÷ 7 × 7 = 5 (d) 7 - 7 × 7 + 7 = 5	0
10	If true commission		and in the natio 1.	E Find the smaller and
12.	(a) 40°	(b) 50°	(c) 80°	5. Find the smaller one. (d) 100°
	(a) 40	(0) 50	(0) 80	(d) 100
13.	Simplify : $5\frac{1}{2}$	$-\left\{\frac{2}{5} \text{ of } \frac{5}{6} + \left(\frac{7}{8} \div\right)\right\}$	$-1\frac{3}{4}\bigg)\bigg\}$	
	(a) $4\frac{1}{3}$	(b) $4\frac{2}{3}$	(c) $5\frac{1}{3}$	(d) $5\frac{2}{3}$
14.	Mr. Raja trave 260 km ?	els 390 km in	6 hours. How lo	ng will he take to travel
	(a) 5 hrs	(b) 4.5 hrs	(c) 4 hrs	(d) 3.5 hrs
15.	The ratio of th then the heigh	_		: 6. If Nita is 1.2 m tall,
	(a) 1.8 m	(b) 1.0 m	(c) 1.5 m	(d) 2.4 m
16.		0 each. The a	•	ach and 10 officers get a the employees in the
	(a) ₹2800	—• (b)₹3000	(c) ₹3200	(d) ₹ 3600
17.	A + B = 3600 , B = 3 times of (a) 1500			(d) 1400
		、 ,	(-,	

18. Jason and Kent had a total 16 stamps. Jason then gave 4 stamps to Kent. Both of them had an equal number of stamps in the end. How many stamps did kent have at first?
(a) 16 (b) 4 (c) 8 (d) 12

19. Ajay spent ₹ 208 for 4 notebooks and 6 pens, if cost of a notebook is ₹ 25. Find cost of 10 pens?
(a) ₹ 210
(b) ₹ 180
(c) ₹ 200
(d) ₹ 240

20. The table shows the rates of charges at a car park. Charlie parked his car at the car park from 10.30 am to 5.30 pm. How much did he have to pay.

7.00 am to 4 pn	n ₹60 p	per hour	
After 4.00 pm	₹ 90 p	per hour	
(a) ₹ 286.5	(b) ₹525	(c) ₹ 465.0	(d)₹46.5

21. ₹ 36 were shared among three girls. Sarika received $\frac{1}{6}$ of the

money and Amita received $\frac{1}{3}$ times more than Sarika. If Mayurireceived the rest of the money. How much was Mayuri's share?(a) ₹18(b) ₹17(c) ₹21(d) ₹22

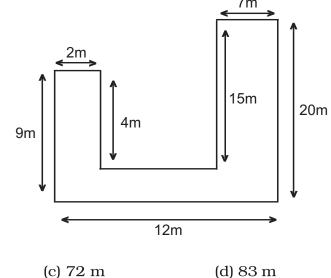
22.20% of 90 + 15% of 70 + 25% of 900 =(a) 252.5(b) 253.5(c) 254.5(d) 255.5

24. Cost of $\frac{1}{2}$ kg sugar is ₹16 and $\frac{1}{4}$ kg tea powder is ₹ 50. Find the total cost of 5 kg sugar and 2 kg tea powder. (a) 450 (b) 560 (c) 500 (d) 650

25. The sum of ₹ 475 is shared among three brothers. The eldest brother gets ₹ 75 more than second brother. The second brother gets ₹ 50 more than youngest brother. How much does youngest brother get?

	(a) ₹ 75	(b)₹50	(c) ₹ 125	(d)₹100
26 .	Find the 20th te	rm in the number	sequence. 1, 4, 7	, 10,
	(a) 60	(b) 58	(c) 62	(d) 63

- 27. At the sale, shirts were sold at 3 for 675 and 5 for ₹ 900, how much Mrs. Joshi pay for 38 shirts?
 (a) 6875 (b) 7075 (c) 6975 (d) 5115
- 28. The mass of box A is 8 kg more than the mass of box B. The mass of box A is 5 times the mass of box C. What is the mass of Box B if mass of box C is 10 kg?
 (a) 42 (b) 58 (c) 40 (d) 44
- **29.** Study the figure below carefully and find the perimeter of the figure.



30. 1st January 2002, was Thursday. Which day of the week will be

(b) 71 m

21st March in that year.

(a) 69 m

(a) Saturday (b) Monday	(c) Sunday	(d) Tuesday
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Answer Sheet

Mock paper - 1

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

Mock paper - 2

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

Extra Practice Question Paper (Section - 3)

1	d	2	d	3	С	4	а	5	b	6	d	7	b	8	С	9	d	10	d
11	а	12	а	13	b	14	С	15	b	16	b	17	а	18	b	19	b	20	С
21	d	22	b	23	b	24	b	25	d	26	b	27	С	28	а	29	С	30	а

hrs

• 3

 $\therefore \frac{81 \times 5}{3} = 135 \text{ km}$

 \sim 5

SECTION 3 (Solutions) $\therefore \sqrt{m}$ = 28 - 6 Mock Paper - 1 $\therefore \sqrt{m}$ = 22 .. m 48) : Do cross multiplication

- 42) Area = 625 m^2 , side = ? \therefore Area = (side)² \therefore side = $\sqrt{\text{Area}}$ $=\sqrt{625}$ = 25 m \therefore perimeter = 4 × side $= 4 \times 25 = 100 \text{ m}$
- 43) A square table can seat 4 people with 2 persons on each side. No. of tables = 20All tables are joined end to end \therefore on 1st and 20th table each 6 people can be seated, so total, $6 \times 2 = 12$ people From table 2nd to table 19th, each 4 people can be seated, so, total, $18 \times 4 = 72$ people Now total number of people will be 12 + 72 = 84
- 44) X = 23.2 m

41)

km

81 -

 $Y = \frac{3}{4} \times 23.2$ = 17.4 m $Z = \frac{1}{6} \times 17.4 = 2.9 \text{ m}$ ∴ X + Y + Z = 23.2 + 17.4 + 2.9 = 43.5 m

- $(0.74 + 0.46) \times (0.07 0.5 + 0.59)$ 45) $1.2 \times 0.16 = 0.192$
- 46) A (whole figure) = 216 cm^2 Figure is divided into 6 equal squares. \therefore A (each square) = 216 ÷ 6 $= 36 \text{ cm}^2$: Each side of smaller squares

 $=\sqrt{36}$ = 6 cm \therefore Length of whole figure = 6 + 6 + 6 = 18 cm Breadth of whole figure = 6 + 6 = 12 cm \therefore Perimeter = 2 (l + b) $= 2(18 + 12) = 2 \times 30$ = 60 cm

47)
$$\frac{\sqrt{m+6}}{4} = 11 - 4$$

$$\therefore \quad \frac{\sqrt{m+6}}{4} = 7$$

$$\therefore \quad \sqrt{m} + 6 = 7 \times 4$$

$$\therefore \quad \sqrt{m} + 6 = 28$$

 $= 22^2 = 484$ Average of 3 subjects = 87 marks \therefore Total marks = $87 \times 3 = 261$ = 85 : Marks scored in English \therefore (History + Maths) marks = 261 - 85 = 176 \therefore Score in Maths test $= 176 \div 2$ = 88 marksA (ABCD) = Length \times Breadth 49) $= 27 \times 18 = 486 \text{ cm}^2$ $A(PQRS) = (side)^2$ $= (14)^2 = 196 \text{ cm}^2$ ∴ A (shaded part) = 484 -196 $= 290 \text{ cm}^2$ Mohan read $\frac{1}{4}^{\text{th}}$ of the book 50) : if he read further 91 pages, $\frac{3}{5}^{\text{th}}$ of book would be read. means, difference of $\frac{1}{4} \& \frac{3}{5}$ is 91 so, $\frac{3}{5} - \frac{1}{4}$ (find LCM of denominators) $= \frac{3 \times 4}{5 \times 4} - \frac{1 \times 5}{4 \times 5}$ $= \frac{12 - 5}{20} = \frac{7}{20}$ Let total number of pages be x $\frac{7}{20}$ of total pages = 91 $\frac{7}{20} \times x = 91$ $\therefore x = \frac{91 \times 20}{7} = 260$ **Mock Paper - 2** = 12841) Total number of pupils $=\frac{3}{8} \times 128$ pupils wearing glasses = 48 $=\frac{1}{4} \times 48 = 12$ No. of girls wearing glasses ... No of boys = 48 – 12 = 36

42) Goat : Cow : Horse : 7 : 5 1 sum of ratio's = 5 + 7 + 1 = 13Total expenses = ₹1560 Maintenance expenses of Cow $=\frac{5}{13} \times 1560 = ₹600$

Mental Maths Competition $^{\ensuremath{\mathbb{R}}}$

Std : 6

43)	Let Breadth be x m \therefore Length = 2x m	49)
	Area = 98 m^2	
	$\therefore \text{ Area} = \text{Length} \times \text{Breadth} \\98 = 2x \times x$	
	98 = $2x^2$	
	$\frac{98}{2} \qquad = x^2$	
	$\therefore 49 = x^2$	
	$\therefore x = \sqrt{49} = 7 \text{ m}$	
	: Length = $2x = 2 \times 7 = 14$ m	
44)	$\sqrt{39} - \sqrt{(14 \div 2) + \sqrt{4}}$	50)
	Always first solve the smallest square root	
	so, $\sqrt{39 - \sqrt{(14 \div 2) + 2}}$	
	$\therefore \sqrt{39 - \sqrt{7 + 2}}$	
	$\therefore \sqrt{39} - \sqrt{9}$	
	$\sqrt{39-3}$	
	$\therefore \sqrt{36} = 6$	1)
45)	Average = 20	
	$\therefore \text{ Average } = \frac{\text{Total sum}}{\text{Total number}}$	2)
	$20 = \frac{13 + 17 + 19 + \frac{M}{M} + 29}{5}$	
	$\therefore 20 \times 5 = 78 + \%$	
	$100 - 78 = \overset{\wedge}{\underset{\sim}{\times}}$ $22 = \overset{\wedge}{\underset{\sim}{\times}}$	
46)	$[167 + 2{23 \times (-3)} - 7 (48 \div 3 - 14)]]$	
	use BODMAS ∴ [167 + 2{23 × (-3) - 7 (16 - 14)}]	3)
	∴ [167 + 2{23 × (-3) -7 × 2}]	
	$\therefore [167 + 2\{-69 - 14\}]$ $\therefore [167 + 2 \times (-83)]$	
	∴ [167 – 166]	
	·• 1	
47)		4)
	$\therefore (x + 40) + (2x + 20) + 3x = 180$ $\therefore x + 40 + 2x + 20 + 3x = 180$	
	$\therefore 6x + 60 = 180$	
	$\therefore 6x = 180 - 60$ $\therefore 6x = 120$	
	\therefore x = 120 ÷ 6 = 20° Angles of the triangle are,	
	$x + 40 = 20 + 40 = 60^{\circ};$	5)
	$2x + 20 = 2 \times 20 + 20 = 40 + 20 = 60^{\circ}$ $3x = 3 \times 20 = 60^{\circ}$	
	so its an Equilateral triangle	
48)	10% of 330 = 33	
	20% of 75 = 15 25% of 208 = 52	6)
	Now, 52 - (33 + 15)	
	52 - 48 = 4	

49)	Cost price repairs cost ∴ Actual cost price selling price ∴ profit ∴ Profit %	= ₹2025 = ₹175 = 2025 + 175 = ₹ 2200 = ₹2596 = S.P - C.P = 2596 - 2200 = ₹ 396 = $profit \times 100$ cost price = $\frac{396}{2200} \times 100 = 18\%$
50)	Half an hour = 30 m Words Time (mins) 400 30 x 24 $\therefore x = \frac{400 \times 24}{30} = 3$ Extra Pract	
1)	a = 3, b = 2 and c $3ab - 2b^2 + 4abc$ = $(3 \times 3 \times 3) - (2 \times 2)$ = $18 - 8 + (-96)$ = $18 - 8 - 96 = -86$	x = -4 × 2) + (4 × 3 × 2 × -4)
2)	Breadth = 60cm, Ler Perimet Breadth : Perim	= 2(180 + 60) = 2 × 240 = 480 cm
3)	Now, $252 \div 7$ So, 36 bags each of 5	2kg = 7 kg = 36 bags
4)		ratio of Goat : Sheep $5 = 6$ and, $\frac{1}{6} \times 105$ is not are exactly divisible
5)	Its a relation, $57 = 3 \times 19$ $51 = 3 \times 17$ $x = 3 \times y$ option (b) is correct	
6)	$0.42 \div 2.8$ remove decimal point $\frac{0.42 \times 10}{2.8 \times 10} = \frac{4.2}{28}$	t from the denominator

= 0.15

	ental Maths Competition [®] ?		
7)	$9.6 \div 12 + 0.32 \times 10 - 1.1$ = 0.8 + 0.32 × 10 - 1.1 = 0.8 + 3.2 - 1.1	14)	$\begin{array}{ccc} \text{Km} & \text{Hrs} \\ 390 & 6 \\ 260 & x \\ & 260 x 6 \\ & & \end{array}$
8)	= 2.9 Side of square plot = 80 m Cost of levelling per m ² = ₹6.50	15)	$\therefore x = \frac{260 \times 6}{390} = 4 \text{ hrs}$ Mita Nita 5 6
	first, find Area Area = (side) ² = (80) ² = 6400 m ² Total Cost = 6400 × 6.50 = ₹41600		x 1.2 $\therefore x = \frac{5 x 1.2}{6} = 1 m$
9)	Each successor number is half of the other so,	16)	20 clerks, ₹2500 each ∴ Total amount = 20 × 2500 = ₹ 50000
	80, 40, 20, <u>10</u> , <u>5</u> , $2\frac{1}{2}$ correct answer is option (d)		10 offiers, ₹4000 each ∴ Total amount = 10 × 4000 = ₹ 40000
10)	Given digits = 0, 1, 2, 3, 4 Greatest number = 43210 Smallest number = $(-)10234$ Their difference 32976		 Total amount = 50000 + 40000 = ₹ 90000 Total number = 20 clerk + 10 offices = 30 pupils
11)	Option (a) is correct as, $7 \div 7 + 7 \times 7 = 50$		Average = $\frac{\text{Total sum}}{\text{Total number}}$ 90000
	1 + 49 = 50 50 = 50		= $\frac{90000}{30}$ = ₹3000
12)	When two angles add upto 90°, those are complementary angles. sum of the ratio = $4 + 5 = 9$	17)	$B = 3C$ $B + C = 2800$ \downarrow
13)	smallest angle = $\frac{4}{9} \times 90 = 40^{\circ}$ Use BODMAS,		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
10)	$5\frac{1}{2} - \left\{\frac{2}{5} \text{ of } \frac{5}{6} + \left(\frac{7}{8} \div 1\frac{3}{4}\right)\right\}$		B = 2100 $A + B = 3600$ $A = 3600 - 2100$ $A = 1500$
	$= \frac{11}{2} \cdot \left\{ \frac{2}{5} \text{ of } \frac{5}{6} + \left(\frac{7}{8} \div \frac{7}{4} \right) \right\}$	18)	At the end, Jason $\rightarrow 8$
	$= \frac{11}{2} - \left\{ \frac{2}{5} \text{ of } \frac{5}{6} + \left(\frac{\cancel{x}}{\cancel{x}} \times \frac{\cancel{x}}{\cancel{x}} \right) \right\}$ $= \frac{11}{2} - \left\{ \frac{\cancel{x}}{\cancel{x}} \text{ of } \frac{\cancel{x}}{\cancel{x}} + \frac{1}{2} \right\}$		Kent $\rightarrow 8$ In the beginning Jason $8 + 4 = 12$ Kent $8 - 4 = 4$
	$= \frac{1}{2} \left\{ \overline{\mathcal{B}}_{1}^{\text{of}} \overline{\mathcal{B}}_{3}^{\text{+}} \overline{2} \right\}$ $= \frac{11}{2} \left\{ \frac{1}{3} + \frac{1}{2} \right\}$	19)	1 notebook = 25 4 notebooks = $25 \times 4 = 100$ 4 notebooks and 6 pens = 208
	$= \frac{11}{2} \cdot \left\{ \frac{1 \times 2}{3 \times 2} + \frac{1 \times 3}{2 \times 3} \right\}$		$\therefore 6 ext{ pens} = 208 - 100 \\ = 108 \\ \therefore 1 ext{ pen} = 108 \div 6 ext{}$
	$= \frac{11}{2} - \left\{ \frac{2+3}{6} \right\}$ = 11 = 5		= 18 Cost of 10 pens = 18×10 = 180
	$= \frac{11}{2} - \frac{5}{6}$ $= \frac{11 \times 3}{2 \times 3} - \frac{5}{6}$ ₁₄	20)	10.30 am to 4 pm = $5\frac{1}{2}$ hrs
	$= \frac{33-5}{6} = \frac{28}{8} = \frac{14}{3} = 4\frac{2}{3}$		4 pm to 5:30 pm = $1\frac{1}{2}$ hrs. Amount to be paid 1 1
			$= (5\frac{1}{2} \times 60) + (1\frac{1}{2} \times 90)$ = 330 + 135 = 465

29)

21)	Sarika $\rightarrow \frac{1}{6} \times 36 =$	₹ 6
	Amita $\rightarrow 6 + \frac{1}{3} \times 6$	i
	= 6 + 2 = ₹ 8 Mayuri = 36 - (6 + 8 = ₹ 22	3)
22)	$\frac{20}{100} \times 90 + \frac{15}{100} \times 70 + \frac{15}{100}$	+ $\frac{25}{100}$ × 900
23)	$\sqrt{6889} = 83$	
24)	Cost of $\frac{1}{2}$ kg sugar Cost of 1 kg sugar Cost of 5 kg sugar	 ₹ 16 16 × 2 ₹ 32 5 × 32 ₹ 160
	Cost of $\frac{1}{4}$ kg tea powder	r = ₹50
	Cost of 1 kg tea powder	$= 4 \times 50$
•••	Cost of 2 kg tea powder	= ₹ 200 = 2 × 200 = ₹ 400
	Total cost	= 160 + 400 = ₹ 560
25)	Youngest \Rightarrow YSecond \Rightarrow Y + 50Eldest \Rightarrow Y + 50) + 75
	= Y + Y + 50 + Y + 125 = 3Y + 175 = 3Y = 3Y = Y = Y =	475 475 475 - 175 300 300 ÷ 3
	Younger brother gets ₹	
26)	1, 4, 7, 10 difference of 3 between 20th term = 1 + 19 = 1 + 57 = 58) × 3
27)	38 shirts = 7 sets	
	Amount paid for 38 = (7 × 90 = 6300 - = 6975	00) + (1 × 675)
28)	Box C10 kg.Box A $5 \times 10 = 5$ Box B $50 - 8 = 4$	0

	= 9 + 4 + 15 + 20 + 12 + 12 = 72 m
30)	Excluding 1 st January No. of days in January = 30 No. of days in February = 28 No. of days till 21^{st} March = 21 Total = 79 days 79 ÷ 7 gives remainder 2 2 nd day after Thursday is 'Saturday'.

Perimeter of figure

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School Name Std Mobile No											Incorrec A A		shading C D C D		
Examina	Examination Centre Date :											 A B ● D Correct way of shading A B C ● 			
ANSWERS															
	<u>Se</u>	<u>ctio</u>	<u>n -]</u>	[Section - II						Section - III			
1.	A	B	©	\bigcirc	21.	A	B	C	\bigcirc	41. (A B	C	D		
2.	A	B	C	\bigcirc	22.	A	B	C	\bigcirc	42. (A B	C	D		
3.	A	B	C	\bigcirc	23.	A	B	C	\square	43. (A B	C	D		
4.	A	B	C	\bigcirc	24.	A	B	C	\bigcirc	44. (A B	C	D		
5.	(A)	B	C	\square	25.	A	B	C	\bigcirc	45. (A B	C	D		
6.	(A)	B	C	\square	26.	A	B	C	\bigcirc	46. (A B	C	D		
7.	A	B	C	\bigcirc	27.	A	B	C	\bigcirc	47. (A B	C	D		
8.	A	B	C	\bigcirc	28.	(A)	B	C	\bigcirc	48. (A B	C	D		
9.	A	₿	C	\bigcirc	29.	(A)	B	C	\bigcirc	49. (A B	C	D		
10.	A	B	C	\bigcirc	30.	(A)	B	C	\bigcirc	50. (A B	C	D		
11.	A	B	C	\bigcirc	31.	(A)	B	C	\bigcirc		For Office Use Only				
12.	A	B	C	\square	32.	A	B	C	\bigcirc	Section			Marks		
13.	(A)	B	C	\square	33.	A	B	C	\bigcirc			Mark	Scored		
14.	A	B	C	\bigcirc	34.	A	B	C	\bigcirc	1		x1			
15.	(A)	B	C	\bigcirc	35.	(A)	B	C	\square	2		x 2			
16.	(A)	B	C	\bigcirc	36.	A	B	C	\square	3		x 4			
17.	A	B	C	\square	37.	A	B	C	\bigcirc	Total					
18.	A	B	C	\bigcirc	38.	A	B	C	\bigcirc	Remark :					
19.	A	B	C	\bigcirc	39.	A	B	C	\bigcirc						
20.	A	B	C	D	40.	A	B	C	D						
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School Name Std Mobile No											Incorrec A A		shading C D C D		
Examina	Examination Centre Date :											 A B ● D Correct way of shading A B C ● 			
ANSWERS															
	<u>Se</u>	<u>ctio</u>	<u>n -]</u>	[Section - II						Section - III			
1.	A	B	©	\bigcirc	21.	A	B	C	\bigcirc	41. (A B	C	D		
2.	A	B	C	\bigcirc	22.	A	B	C	\bigcirc	42. (A B	C	D		
3.	A	B	C	\bigcirc	23.	A	B	C	\square	43. (A B	C	D		
4.	A	B	C	\bigcirc	24.	A	B	C	\bigcirc	44. (A B	C	D		
5.	(A)	B	C	\square	25.	A	B	C	\square	45. (A B	C	D		
6.	(A)	B	C	\square	26.	A	B	C	\bigcirc	46. (A B	C	D		
7.	A	B	C	\bigcirc	27.	A	B	C	\bigcirc	47. (A B	C	D		
8.	A	₿	C	\bigcirc	28.	(A)	B	C	\bigcirc	48. (A B	C	D		
9.	A	₿	C	\bigcirc	29.	(A)	B	C	\bigcirc	49. (A B	C	D		
10.	A	B	C	\bigcirc	30.	(A)	B	C	\bigcirc	50. (A B	C	D		
11.	A	B	C	\bigcirc	31.	(A)	B	C	\bigcirc		For Office Use Only				
12.	A	B	C	\square	32.	A	B	C	\bigcirc	Section			Marks		
13.	(A)	B	C	\square	33.	A	B	C	\bigcirc			Mark	Scored		
14.	A	B	C	\square	34.	A	B	C	\bigcirc	1		x1			
15.	(A)	B	C	\bigcirc	35.	(A)	B	C	\square	2		x 2			
16.	(A)	B	C	\bigcirc	36.	A	B	C	\square	3		x 4			
17.	A	B	C	\square	37.	A	B	C	\bigcirc	Total					
18.	A	B	C	\bigcirc	38.	A	B	C	\bigcirc	Remark :					
19.	A	B	C	\bigcirc	39.	A	B	C	\bigcirc						
20.	A	B	C	D	40.	A	B	C	D						
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