



MENTAL MATHS COMPETITION

: Organised by :

GLOBAL MATHS SCIENCE EDUCATION®

in association with

Math Vision PTE Ltd., Singapore

MOCK TEST

Name : _____

School : _____ Std. : **7**

Mob.No. : (Mother) _____ (Father) _____

Instructions for the Competition


Total Marks : 200

Total No of questions: 75

1. Time : $1\frac{1}{2}$ hr
2. Students can use HB Pencil for marking answers in OMR sheet.
3. Questions are arranged according to 3 difficulty level to provide pupils with optimum exposure to Mental Maths.
4. [Section 1] In this section, there are 40 questions help to build calculation skills. Each question carries 2 marks.
5. [Section 2] It is related with 20 questions to test fundamental concept covered with topics listed. Each question carries 3 marks.
6. [Section 3] Here questions are challenging & required high order thinking skills. Each question carries 4 marks. Students are requested to practice extra question given alongwith the Mock paper. Any 15 questions can be asked from given question format in mock paper & extra practice questions.

MENTAL MATHS COMPETITION

- (1) Q. No. 1 to 50 are based on basic. Calculation questions related to Addition, Subtraction, Multiplication and Division, doubling and halving.
- (2) Student should know multiplication tables from 2 to 30.
- (3) Number pattern. Doubling & Halving.
- (4) Mixed operations (BODMAS), Decimal Fraction, Fractions, time
- (5) L.C.M & H.C.F., divisibility of 2, 3, 4, 5, 6, 8, 9, 10, 11
- (6) Integers (Add, Subtract, Multiply, Divide) Mixed sums
- (7) Find day and date in a given calender year.
- (8) Calculation of percentage, Average, Ratio, simple equation, discount, profit & Loss percentage.
- (9) Square and Square root from 1 to 30, Cubing a number from 1 to 15
- (10) Conversions: kg → hecto grm, deca gram, gram, decigram, centigram, miligram
km → hecto metre, deca mt, metre, deci mt, centi mt, mili mt.
kl → hecto litre, deca lt, litre, decilt, centi lt, mili lt.
- (11) Area and perimeter of square and rectangle. Angles of a triangle.



**Practice Books
are available at our
Registration Centres only
(Std.1 to 7)**

**GLOBAL KNOWLEDGE
PUBLICATIONS**



SECTION 1 (Mental Maths Calculation)

1. $(29 \times 7) + (23 \times 6) =$ _____

- (a) 241 (b) 431
(c) 341 (d) 351

2. $(95 \times 3) + (85 \times 7) =$ _____

- (a) 380 (b) 860
(c) 880 (d) 885

3. $(65 \times 6) - (37 \times 8) =$ _____

- (a) 104 (b) 94
(c) 74 (d) 84

4. $(87 \times 6) - (66 \times 7) =$ _____

- (a) 80 (b) 70
(c) 90 (d) 60

5. $(25\% \text{ of } 68) + (50\% \text{ of } 26) =$

- (a) 30 (b) 40
(c) 25 (d) 45

6. $(40\% \text{ of } 660) - (30\% \text{ of } 150) =$

- (a) 51 (b) 219
(c) 89 (d) 119

7. $(\text{half of } 90) + (\frac{1}{3} \text{ of } 66) =$

- (a) 37 (b) 47
(c) 67 (d) 87

8. $(\text{one third of } 150) - (\frac{1}{4} \text{ of } 120)$

 $=$ _____

- (a) 70 (b) 20
(c) 40 (d) 90

9. $(15\% \text{ of } 70) + (5\% \text{ of } 80) =$

- (a) 14.5 (b) 15.5
(c) 16.5 (d) 18.5

10. $(20\% \text{ of } 90) + (15\% \text{ of } 80) =$

- (a) 23 (b) 25
(c) 22 (d) 30

11. $\text{square of } 14 + \text{square of } 12 =$

- (a) 240 (b) 340
(c) 140 (d) 170

12. $\text{square of } 26 - \text{square } 17 =$

- (a) 81 (b) 285
(c) 390 (d) 387

13. $(\text{cube of } 9) + (\text{cube of } 8) =$

- (a) 1342 (b) 1341
(c) 1241 (d) 1242

14. (cube of 15) – (cube of 8) = _____

- (a) 2865 (b) 2874
(c) 2763 (d) 2863

15. $\sqrt{529} \times \sqrt{144} =$ _____

- (a) 276 (b) 376
(c) 277 (d) 476

16. $\sqrt{289} - \sqrt{169} =$ _____

- (a) 2 (b) 4
(c) 1 (d) 3

17. $\sqrt{361} + \sqrt{256} =$ _____

- (a) 37 (b) 36
(c) 34 (d) 35

18. $\sqrt{225} \div \sqrt{9} =$ _____

- (a) 2 (b) 3
(c) 4 (d) 5

19. The sum of divisors of 36 is _____

- (a) 85 (b) 91
(c) 97 (d) 83

20. The sum of all prime divisors of 360 is _____

- (a) 5 (b) 5
(c) 8 (d) 10

21. Select the smallest number obtained from the given operations.

- (a) $84 \div 4$ (b) $193 - 186$
(c) 2×4 (d) $95 \div 19$

22. Select the greatest number obtained from following operations.

- (a) $25 + \sqrt{121}$ (b) $\sqrt{169} - \sqrt{121}$
(c) $285 - 267$ (d) $10^2 - \sqrt{100}$

23. If 118 is divided by 23, the remainder is _____

- (a) 1 (b) 2
(c) 3 (d) 4

24. If 220 is divided by 24, the remainder is _____

- (a) 2 (b) 3
(c) 4 (d) 5

25. If 136 is divided by 22, the remainder is _____

- (a) 2 (b) 5
(c) 4 (d) 6

26. If 174 is divided by 21 the remainder is _____

- (a) 2 (b) 3
(c) 4 (d) 6

- 27.** $4136 \times 18 =$ _____
 (a) 44348 (b) 74448
 (c) 72448 (d) 74438
- 28.** $9416 \times 17 =$ _____
 (a) 160072 (b) 160082
 (c) 180072 (d) 16072
- 29.** $4.23 \times 16 =$ _____
 (a) 37.68 (b) 67.68
 (c) 66.68 (d) 87.68
- 30.** $5.1 \times 1.9 =$ _____
 (a) 9.96 (b) 0.996
 (c) 9.69 (d) 9.89
- 31.** H.C.F of 40, 80, 60 is _____
 (a) 10 (b) 40
 (c) 20 (d) 80
- 32.** L.C.M. of 12, 16 and 18 is _____
 (a) 144 (b) 208
 (c) 498 (d) 138
- 33.** $27.076 + 9.005 + 3.7 =$ _____
 (a) 49.781 (b) 39.781
 (c) 27.509 (d) 27.511
- 34.** $25 - 6.5 + 9.005 + 0.004 =$ _____
 (a) 27.500 (b) 27.508
 (c) 27.509 (d) 27.511

- 35.** $4\frac{2}{3} + 3\frac{1}{4} =$
 (a) $7\frac{3}{7}$ (b) $3\frac{11}{12}$
 (c) $8\frac{11}{12}$ (d) $7\frac{11}{12}$
- 36.** $\square - \frac{5}{8} = \frac{1}{4}$
 (a) $\frac{7}{8}$ (b) $\frac{6}{8}$
 (c) $\frac{9}{8}$ (d) $\frac{3}{8}$
- 37.** $(45 \times 98) + (45 \times 2) =$ _____
 (a) 4300 (b) 4500
 (c) 4800 (d) 4100
- 38.** Double of 1037 is _____
 (a) 1074 (b) 2084
 (c) 2074 (d) 1174
- 39.** Half of 4296 is _____
 (a) 2148 (b) 2448
 (c) 2248 (d) 2348
- 40.** The ratio of 40 min to 2.5 hours is _____
 (a) 4:17 (b) 4:18
 (c) 4:13 (d) 4: 15

SECTION 2 (Mental Maths Concepts)

- 41.** $[90 - \{50 \div (30 \div 3)\}] - 28$
 (a) 57 (b) 77
 (c) 67 (d) 87
- 42.** Which of the following pairs of number do not have common factor other than 1.
 (a) 25, 35 (b) 24, 16
 (c) 15, 8 (d) 48, 9
- 43.** $[5^2 + 6^2 + 7^2] - \sqrt{256}$
 (a) 91 (b) 92
 (c) 93 (d) 94
- 44.** $\left(\frac{5}{6} - \frac{1}{3}\right) + \left(\frac{4}{9} + \frac{2}{3}\right) =$
 (a) $\frac{20}{18}$ (b) $\frac{19}{18}$
 (c) $\frac{29}{18}$ (d) $\frac{14}{18}$
- 45.** $0.4 \times 0.9 \times 1.2 =$ _____
 (a) 4.32 (b) 0.432
 (c) 43.2 (d) 0.0432
- 46.** $0.49 \div 0.7 =$ _____
 (a) 0.7 (b) 7
 (c) 0.07 (d) 0.007
- 47.** Ajinkya bought car for ₹ 2,50,000 after 6 months he sold it out at a loss of 15% find the selling price of a car.
 (a) 2,10,500 (b) 2,13,500
 (c) 2,11,500 (d) 2,12,500
- 48.** On the purchase of a shirt and pant Rakesh got a discount of 10% and 5% respectively. If M.R.P. of shirt is ₹ 600 and pant is ₹ 900. How much he has to pay for 1 shirt and 1 pant after discount
 (a) ₹ 1395 (b) ₹ 1295
 (c) ₹ 1195 (d) ₹ 1195
- 49.** What will be the Sixth term in as per given number pattern 35, 47, 59, 71, ...,
 (a) 107 (b) 71
 (c) 83 (d) 95
- 50.** Write as percentage $4\frac{4}{20}$
 (a) 84% (b) 420%
 (c) 8.4% (d) 42%
- 51.** 24 centigram = ___ hectogram
 (a) 0.24 (b) 0.0024
 (c) 0.00024 (d) 0.024
- 52.** 358 decilitre = _____ Decalitre
 (a) 35.8 (b) 0.358
 (c) 3.588 (d) 3.58

53. Find the ratio of :-
 $1\frac{1}{2}$ year, 2 years 2 months

- (a) 19:26 (b) 17:26
 (c) 9:13 (d) 1:2

54. The average of seven numbers is 8. If sum of first six numbers is 44 find the seventh number.

- (a) 7 (b) 12
 (c) 14 (d) 11

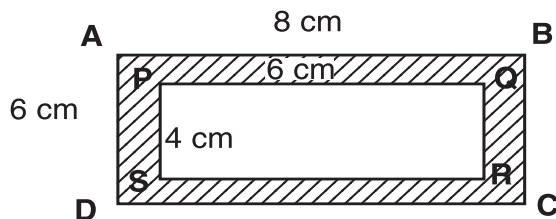
55. If the measure of two angles of triangle is 24° and 36° resp. Find the measure of remaining angle.

- (a) 90° (b) 130°
 (c) 110° (d) 120°

56. The measure of an angle is 32.5° . Find the measure of its complementary angle.

- (a) 57.5° (b) 58.5°
 (c) 56.5° (d) 147.5°

57.



In the given rectangle ABCD and PQRS the area of shaded portion is _____ sq cm.

- (a) 24 (b) 28
 (c) 48 (d) 22

58. If the length of congruent sides of isosceles triangle is 4.7 cm and perimeter is 15.4 cm. The length of 3rd side is _____ cm

- (a) 5 (b) 6
 (c) 7 (d) 4.7

59. A square has a side of 25 cm. A smaller square of side 13 cm has been cut out of it. The area remaining is _____ sq. cm

- (a) 456 (b) 465
 (c) 454 (d) 450

60. If the radius of circle is 21 cm. Find it area if $(\pi = 22/7)$

- (a) 1368 sq cm (b) 1384 sq cm
 (c) 1385 sq cm (d) 1386 sq cm

SECTION 3 (Mental Maths Challenge)

- 61.** During a sport day, there were 225 more boys than girls and there were 258 fewer teachers than girls. How many people were there altogether if there were 78 teachers?
- (a) 561 (b) 975 (c) 957 (d) 560
- 62.** A dinner of ₹1400 was shared by 6 people. If Mr. Shah paid ₹ 50 more than each of other people, how much did Mr. Shah pay?
- (a) ₹ 225 (b) ₹ 275 (c) ₹ 250 (d) ₹ 300
- 63.** 10 ball pens cost ₹ 75, how much do 2 dozens ball pen cost?
- (a) ₹ 150 (b) ₹160 (c) ₹ 170 (d) ₹ 180
- 64.** Mrs. Monica spent $\frac{3}{5}$ of her money and 440 is left. How much did she have first
- (a) ₹ 1600 (b) ₹ 960 (c) ₹ 1100 (d) ₹ 2000
- 65.** A kettle contains 5 l 500 ml of water. if the water is poured into four 1.25 l bottles, how much water is left in a Kettle?
- (a) 450 ml (b) 750 ml (c) 1.25 ml (d) 500 ml

- 66.** A Roll of paper 24 m long is placed in a fax machine. In every fax transmission received, the fax machine will use 30 cm of paper. What is the length of paper left if it receives 23 fax transmissions?
(a) 1870 cm (b) 1879 cm (c) 1710 cm (d) 1872 cm
- 67.** Peter 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 subject is 87 marks. What score does he get for the Maths test?
(a) 85 (b) 86 (c) 87 (d) 88
- 68.** Mr. Lobo spent 30% of his salary on transport. He spent 10% more of his salary on rent than transport. If Mr. Lobo earned ₹ 4000, how much he saved in the end?
(a) ₹ 1000 (b) ₹ 1200 (c) ₹ 1480 (d) ₹ 2000
- 69.** In a triangle ABC, measures of $\angle B$ is twice of measure of $\angle A$ and measure of $\angle C = 60^\circ$, find the measure of $\angle A$.
(a) 60° (b) 80° (c) 40° (d) 120°
- 70.** If the circular playground with the radius 14 metre is levelled at rate of ₹ 50 per square metre. The total cost of leveling the ground is ₹ _____
(a) 15400 (b) 15600 (c) 30800 (d) 30600

- 71.** $\frac{(0.3)(0.3) + 0.6 \times 0.2 + (0.2 \times 0.2)}{(0.3 + 0.2)} = ?$
- (a) 0.6 (b) 0.5 (c) 0.05 (d) 6
- 72.** $\frac{\sqrt{m}}{6} = 6$ Find the value of m.
- (a) 1296 (b) 36 (c) 6 (d) 36
- 73.** A profit of ₹ 30,000 is to be distributed among Amar, Akbar and Anthony in the ratio of 3:5:7. What will be the difference between Akbar's and Anthony's amount?
- (a) ₹ 1000 (b) ₹ 2000 (c) ₹ 3000 (d) ₹ 4000
- 74.** The traffic signals lights at three different road crossing change after every 48 seconds, 72 seconds and 108 seconds respectively. If they all change simultaneously at 8.20 hours, then they will again change simultaneously at _____
- (a) 8:27:12 hrs (b) 8:27:36 hrs (c) 8: 27: 48 hrs (d) 8: 27: 24 hrs
- 75.** If 60% of the students in a school are boys and the girls number is 812. How many boys are there?
- (a) 1624 (b) 406 (c) 1218 (d) 1416

(Extra practise question)

1. 10% of 24.2 will be how much more than 10% of 24.02.
(a) 0.02 (b) 0.18 (c) 0.018 (d) 0.002
2. $\frac{1}{3 \times 5} + \frac{1}{5 \times 7} - \frac{9+1}{3 \times 5 \times 7} = ?$
(a) 10 (b) 0 (c) $\frac{8}{3 \times 5 \times 7}$ (d) $\frac{7}{3 \times 7}$
3. $\frac{36 \times 0.003 \times 0.0035}{0.63 \times 0.8} = ?$
(a) 7.5 (b) 0.0075 (c) 0.00075 (d) 1.5
4. $\sqrt{1 + \frac{X}{144}} = \frac{13}{12}$ the value of X =
(a) 0 (b) 12 (c) 13 (d) 25
5. Karim bought some toys at a discount of 20% on the original price. The original price of each toy is ₹ 400. If he makes total saving of ₹ 2400, How many toys did he buy ?
(a) 8 (b) 12 (c) 24 (d) 30

6. $[9.7 - \{6.38 - (18.17 - 14.39)\}]$
(a) 7.1 (b) 7.2 (c) 7.3 (d) 6.9
7. A motorcycle gives an average of 50 km per litre. How much petrol is required to travel 735 km.
(a) 14 l (b) 14.6 l (c) 14.7 l (d) 15 l
8. At an end of term party, 12 chocolate cakes are shared equally between 40 children. How much did each child get.
(a) $\frac{6}{10}$ (b) $\frac{3}{10}$ (c) $\frac{9}{10}$ (d) $\frac{4}{10}$
9. The perimeter of rectangle is 56 meter and length is 3 times of breadth. Find the area of Rectangle.
(a) 147 sqm (b) 587 sqm (c) 588 sqm (d) 148 sqm
10. Mrs. Singh earns ₹ 3500 per month, After getting 10% increase in salary, calculate her monthly income as per new salary.
(a) ₹ 4620 (b) ₹ 4850 (c) ₹ 4610 (d) ₹ 3850

11. The sum of 5 consecutive even numbers is 180. Find the smallest of them.

- (a) 26 (b) 30 (c) 18 (d) 32

12. The ratio's of the angles of triangle are 8:7:3 Find the difference between the greatest and the smallest angles of that triangle.

- (a) 70° (b) 30° (c) 80° (d) 50°

13. When an article is sold for ₹ 36, the loss is 20% What is the cost price of the article ?

- (a) ₹ 16 (b) ₹ 28.80 (c) ₹ 43.20 (d) ₹ 45

14. Which of the following number is exactly divisible by eight.

- (a) 18270 (b) 68286 (c) 58216 (d) 48188

15. $\left[4\frac{1}{2} + \left(5\frac{1}{3} \times 3 \right) \right] - 2\frac{2}{3}$

- (a) $\frac{107}{6}$ (b) $\frac{108}{6}$ (c) $\frac{105}{6}$ (d) $\frac{109}{6}$

16. Parth walked $\frac{3}{8}$ km to his school, he walked 250m to his friend Suraj's house. Then he walked $\frac{1}{2}$ km back to his home. How far did he walk?

- (a) $\frac{5}{14}$ km (b) $\frac{7}{8}$ km (c) $\frac{9}{8}$ km (d) $\frac{1}{8}$ km

17. $4\frac{3}{4} - \left[\frac{5}{8} + \left(3\frac{1}{4} - \frac{1}{2} \right) \right] = ?$

- (a) $\frac{9}{8}$ (b) $\frac{11}{8}$ (c) $\frac{53}{8}$ (d) $\frac{12}{8}$

18. How far will gas-filled balloon travel in 8 hours if its average speed is $10\frac{1}{2}$ km/hr.

- (a) 80 km (b) 90 km (c) 84 km (d) 100 km

19. If $\frac{1}{4} \times 2 \times \boxed{} = \frac{1}{4} \times 16$ then $\boxed{} = ?$

- (a) 8 (b) 9 (c) 6 (d) 16

20. The vertex angle of an isosceles triangle is 50°. Find the measure of its base angles.

- (a) 100 (b) 50 (c) 65 (d) 80

21. A dealer wishes to make a profit of 25% by selling an article. At what price should he sell the article, if the cost price is ₹ 200 ?

- (a) ₹ 220 (b) ₹ 225 (c) ₹ 250 (d) ₹ 150

22. $\sqrt{1369} =$

- (a) 33 (b) 37 (c) 23 (d) 27

23. The figure below is made up of similar small squares. If the area of the figure is 216 cm^2 , then its perimeter is _____



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

24. The smallest number, which when subtracted from the sum of the squares of 11 and 12 gives a perfect square is _____.

- (a) 4 (b) 9 (c) 15 (d) 40

25. $(0.74 + 0.26) \times (0.07 + 0.5 + 0.43) = ?$

- (a) 0.5 (b) 0.55 (c) 2 (d) 1

Answer Sheet

1	c
2	c
3	b
4	d
5	a
6	b
7	c
8	b
9	a
10	d
11	b
12	d
13	c
14	d
15	a
16	b
17	d
18	d
19	b
20	d
21	d
22	d
23	c
24	c
25	c

26	d
27	b
28	a
29	b
30	c
31	c
32	a
33	b
34	c
35	d
36	a
37	b
38	c
39	a
40	d
41	a
42	c
43	d
44	c
45	b
46	a
47	d
48	a
49	d
50	b

51	b
52	d
53	c
54	b
55	d
56	a
57	a
58	b
59	a
60	d
61	b
62	a
63	d
64	c
65	d
66	c
67	d
68	b
69	c
70	c
71	b
72	a
73	d
74	a
75	c

Answers for extra practice questions

1	c
2	b
3	c
4	d
5	d
6	a
7	c
8	b

9	a
10	d
11	d
12	d
13	d
14	c
15	a
16	c

17	b
18	c
19	a
20	c
21	c
22	b
23	d
24	b
25	d

Section 3 (Solution)

- 61) Teachers \rightarrow 78
 Girls \rightarrow 78 + 258
 $=$ 336
 Boys \rightarrow 336 + 225
 $=$ 561
 Total no. of people $=$ 78 + 336 + 561
 $=$ 975
- 62) $1400 - 50 = 1350$
 $1350 \div 6 = 225$
 Mr. Shah paid $=$ 225 + 50
 $=$ ₹ 275.
- 63) Cost of 10 ball pens $=$ ₹ 75
 \therefore cost of 1 ball pen $= \frac{75}{10} = 7.5$
 cost of 2 dozen ball pens $= 7.5 \times 24$
 $=$ ₹ 180
- 64) Mrs. Monica spent $\frac{3}{5}$
 \therefore Money left $= 1 - \frac{3}{5}$
 $= \frac{2}{5}$
 $\frac{2}{5}$ of her money $=$ 440
 \therefore Total money at first $= 440 \div \frac{2}{5}$
 $= 440 \times \frac{5}{2}$
 $=$ 1100
- 65) 5 l 500 ml $=$ 5500 ml
 1 bottle $=$ 1.25 l
 $=$ 1.25 \times 1000
 $=$ 1250 ml
 4 bottles $=$ 4 \times 1250
 $=$ 5000 ml
 Water left in a kettle $=$ 5500 - 5000
 $=$ 500 ml
- 66) 1 transmission $=$ 30 cm
 23 transmissions $=$ 23 \times 30
 $=$ 690 cm
 paper left $=$ 24 m - 690 cm
 $=$ 2400 - 690
 $=$ 1710 cm
- 67) Average score in 3 subjects $=$ 87 marks
 \therefore total score in 3 subjects $=$ 3 \times 87
 $=$ 261.
 marks scored in English $=$ 85
 \therefore marks scored in Maths and History $=$ 261 - 85
 $=$ 176
 \therefore Marks scored in Maths $= \frac{176}{2}$
 $=$ 88
- 68) Money spent on transport $= \frac{30}{100} \times 4000$
 $=$ 1200
 Money spent on rent $= \frac{40}{100} \times 4000$
 $=$ 1600
 Money saved $=$ 4000 - 1200 - 1600
 $=$ 1200

Alternate method

Money spent on transport $=$ 30%

- Money spent on rent $=$ 30 + 10 = 40%
 Money saved $=$ 100 - 30 - 40
 $=$ 30%
 \therefore Money saved $= \frac{30}{100} \times 4000$
 $=$ 1200
- 69) Let $m \angle A = x^\circ$
 $\therefore m \angle B = 2x^\circ$
 $m \angle C = 60^\circ$
 $m \angle A + m \angle B + m \angle C = 180^\circ$
 $x + 2x + 60 = 180$
 $3x + 60 = 180$
 $3x = 180 - 60$
 $3x = 120$
 $x = \frac{120}{3} \quad x = 40^\circ$
 $\therefore m \angle A = 40^\circ$
- 70) radius $=$ 14 m
 \therefore Area of ground $= \pi r^2$
 $= \frac{22}{7} \times 14 \times 14$
 $=$ 616 m²
 Cost of levelling $=$ 616 \times 50
 $=$ 30800.
- 71) $\frac{(0.3)(0.3) + 0.6 \times 0.2 + (0.2 \times 0.2)}{(0.3 + 0.2)}$
 $= \frac{(0.3)^2 + 2 \times 0.3 \times 0.2 + (0.2)^2}{(0.3 + 0.2)}$
 $= \frac{(0.3 + 0.2)^2}{0.3 + 0.2}$ using $(a+b)^2 = a^2 + 2ab + b^2$
 $= \frac{(0.5)^2}{0.5}$
 $= 0.5$
- 72) $\frac{\sqrt{m}}{6} = 6$
 $\sqrt{m} = 6 \times 6$
 $\sqrt{m} = 36$
 $(\sqrt{m})^2 = (36)^2$
 $m = 1296$
- 73) Amar : Akbar : Anthony $=$ 3 : 5 : 7
 difference between Akbar's and Anthony amount
 $=$ 7 - 5
 $=$ 2 units
 \therefore Actual difference $= \frac{2}{3+5+7} \times 30000$
 $= \frac{2}{15} \times 30000$
 $=$ 4000.
- 74) L.C.M. of 48, 72 and 108 is 432.
 Hence all three lights will change simultaneously after 432 seconds.
 432 seconds $=$ 7 min & 12 sec.
 8 hrs. 20 min + 7 min 12 sec
 $=$ 8 : 27 : 12 hrs.
- 75) Boys Girls
 60% 40%
 x 812
 $\therefore x = \frac{60 \times 812}{40} = 1218$

Extra Practice Questions (Solution)

$$1) \quad 10\% \text{ of } 24.2 = \frac{10}{100} \times 24.2 = 2.42$$

$$10\% \text{ of } 24.02 = \frac{10}{100} \times 24.02 = 2.402$$

$$\text{difference} = \frac{2.42}{- 2.402}$$

$$\qquad\qquad\qquad \underline{\qquad\qquad\qquad}$$

$$\qquad\qquad\qquad 0.018$$

$$2) \quad \frac{1}{3 \times 5} + \frac{1}{5 \times 7} - \frac{9+1}{3 \times 5 \times 7}$$

$$= \frac{1 \times 7 + 1 \times 3 - 10}{3 \times 5 \times 7}$$

$$= \frac{0}{3 \times 5 \times 7}$$

$$= 0$$

$$3) \quad \frac{36 \times 0.003 \times 0.0035}{0.63 \times 0.8}$$

$$= 0.00075$$

$$4) \quad \sqrt{1 + \frac{x}{144}} = \frac{13}{12}$$

$$1 + \frac{x}{144} = \left(\frac{13}{12}\right)^2$$

$$\frac{144+x}{144} = \frac{169}{144}$$

$$144 + x = 169$$

$$x = 169 - 144$$

$$x = 25$$

$$5) \quad \text{Saving on one toy} = 20\%$$

$$= \frac{20}{100} \times 400$$

$$= 80$$

$$\text{Total saving} = \text{Rs. } 2400$$

$$\text{No. of toys} = \frac{2400}{80}$$

$$= 30$$

$$6) \quad [9.7 - \{6.38 - (18.17 - 14.39)\}]$$

$$= [9.7 - \{6.38 - 3.78\}]$$

$$= [9.7 - 2.6]$$

$$= 7.1$$

$$7) \quad \text{Petrol required} = \frac{735}{50}$$

$$= 14.7 \text{ l}$$

$$8) \quad \text{Share of each child} = \frac{12}{40}$$

$$= \frac{3}{10}$$

$$9) \quad \text{Let the Breadth} = xm$$

$$\therefore \text{Length} = 3x \text{ m}$$

$$2(\text{Length} + \text{Breadth}) = \text{Perimeter}$$

$$2(x + 3x) = 56$$

$$8x = 56$$

$$x = \frac{56}{8} = 7 \text{ m}$$

$$\text{Breadth} = 7\text{m}$$

$$\text{Length} = 3 \times 7 = 21 \text{ m}$$

$$\therefore \text{Area of rectangle} = \text{Length} \times \text{Breadth}$$

$$= 21 \times 7$$

$$= 147\text{m}^2$$

$$10) \quad \text{New salary} = 3500 + \frac{10}{100} \times 3500$$

$$= 3500 + 350$$

$$= 3850$$

$$11) \quad \text{Let the 5 consecutive even numbers be } x, x + 2,$$

$$x + 4, x + 6, x + 8$$

$$\therefore x + x + 2 + x + 4 + x + 6 + x + 8 = 180$$

$$5x + 20 = 180$$

$$5x = 180 - 20$$

$$5x = 160$$

$$x = \frac{160}{5}$$

$$x = 32$$

$$12) \quad \text{Ratio of angles} = 8 : 7 : 3$$

$$\text{difference between the largest and smallest}$$

$$= 8 - 3 = 5$$

$$\therefore \text{Actual difference} = \frac{5}{8 + 7 + 3} \times 180$$

$$= \frac{5}{18} \times 180$$

$$= 50^\circ$$

$$13) \quad \begin{array}{cc} \text{Cost price} & \text{selling price} \\ 100 & 80 \\ x & 36 \end{array}$$

$$x = \frac{100 \times 36}{80} = 45$$

$$14) \quad \text{For divisibility of eight, the number formed by}$$

$$\text{last 3 digits should be divisible by 8}$$

$$\text{Hence the answer is } \underline{58216}$$

$$15) \quad \left[4\frac{1}{2} + \left(5\frac{1}{3} \times 3\right)\right] - 2\frac{2}{3}$$

$$= \left[\frac{9}{2} + \left(\frac{16}{3} \times 3\right)\right] - \frac{8}{3}$$

$$= \left[\frac{9}{2} + 16\right] - \frac{8}{3}$$

$$= \frac{9 + 32}{2} - \frac{8}{3}$$

$$= \frac{41}{2} - \frac{8}{3}$$

$$= \frac{123 - 16}{6}$$

$$= \frac{107}{6}$$

$$\begin{aligned}
 16) \quad \text{To school} &= \frac{3}{8} \text{ km} \\
 \text{To Suraj's house} &= 250\text{m} \\
 &= \frac{250}{1000} \\
 &= \frac{1}{4} \text{ km} \\
 \text{To home} &= \frac{1}{2} \text{ km} \\
 \text{Total} &= \frac{3}{8} + \frac{1}{4} + \frac{1}{2} \\
 &= \frac{3+2+4}{8} \\
 &= \frac{9}{8}
 \end{aligned}$$

$$\begin{aligned}
 17) \quad 4\frac{3}{4} - \left[\frac{5}{8} + \left(3\frac{1}{4} - \frac{1}{2} \right) \right] \\
 &= \frac{19}{4} - \left[\frac{5}{8} + \left(\frac{13}{4} - \frac{1}{2} \right) \right] \\
 &= \frac{19}{4} - \left[\frac{5}{8} + \frac{11}{4} \right] \\
 &= \frac{19}{4} - \left[\frac{5+22}{8} \right] \\
 &= \frac{19}{4} - \frac{27}{8} \\
 &= \frac{38-27}{8} \\
 &= \frac{11}{8}
 \end{aligned}$$

$$\begin{aligned}
 18) \quad \text{Average speed} &= 10\frac{1}{2} \text{ km/hr} \\
 &= \frac{21}{2} \text{ km/hr} \\
 \text{Distance} &= \text{speed} \times \text{time} \\
 &= \frac{21}{2} \times 8 \\
 &= 84 \text{ km}
 \end{aligned}$$

$$\begin{aligned}
 19) \quad \frac{1}{4} \times 2 \times x &= \frac{1}{4} \times 16 \\
 \frac{1}{2} \times x &= 4 \\
 x &= 4 \times 2 = 8
 \end{aligned}$$

$$\begin{aligned}
 20) \quad \begin{array}{c} \triangle \\ \diagup \quad \diagdown \\ \text{50}^\circ \\ \diagdown \quad \diagup \\ x \quad x \end{array} \\
 x + x + 50 &= 180 \\
 2x &= 180 - 50 \\
 2x &= 130 \\
 x &= \frac{130}{2} \\
 x &= 65
 \end{aligned}$$

$$\begin{array}{r}
 21) \quad \begin{array}{r} \text{Cost price} \\ 100 \\ 200 \\ x \end{array} \quad \begin{array}{r} \text{Selling price} \\ 125 \\ x \end{array} \\
 x = \frac{200 \times 125}{100} \\
 = 250
 \end{array}$$

$$22) \quad \sqrt{1369} = 37$$

$$\begin{aligned}
 23) \quad \text{Area of 1 small square} &= \frac{216}{6} \\
 &= 36 \text{ cm}^2 \\
 \text{side of small square} &= \sqrt{36} \\
 &= 6 \text{ cm} \\
 \text{Length of rectangle} &= 6 \times 3 = 18 \text{ cm} \\
 \text{Breadth of rectangle} &= 6 \times 2 = 12 \text{ cm} \\
 \text{Perimeter of rectangle} &= 2(18 + 12) \\
 &= 2 \times 30 \\
 &= 60 \text{ cm}
 \end{aligned}$$

$$\begin{aligned}
 24) \quad 11^2 + 12^2 &= 121 + 144 \\
 &= 265 \\
 \text{Nearest perfect square is} \\
 16^2 &= 256 \\
 \therefore \text{No. to be subtracted} &= 265 - 256 \\
 &= 9
 \end{aligned}$$

$$\begin{aligned}
 25) \quad (0.74 + 0.26) \times (0.07 + 0.5 + 0.43) \\
 &= 1 \times 1 \\
 &= 1
 \end{aligned}$$



MENTAL MATHS COMPETITION[®]

Date : _____

Name of Student in Full (IN CAPITAL LETTERS) :-

_____ Name

_____ Father's Name

_____ Surname

School Name _____

Mobile No. _____

Std. _____ Centre _____

- INSTRUCTIONS**
1. Use HB Pencil only on this sheet
 2. Darken the ovals fully.
 3. Erase completely to change responses.
 4. Do not make any stray mark on this sheet.

Incorrect way of shading

(A) (B) (C) (D)

(A) (B) (C) (D)

(A) (B) (C) (D)

Correct way of shading

(A) (B) (C) (D)

For Office Use Only				
Section			Mark	Marks Scored
1			x 2	
2			x 3	
3			x 4	
Total				
Remark :				

ANSWERS

<u>Section - I</u>					<u>Section - II</u>					<u>Section - III</u>				
1. (A) (B) (C) (D)	21. (A) (B) (C) (D)	41. (A) (B) (C) (D)	61. (A) (B) (C) (D)											
2. (A) (B) (C) (D)	22. (A) (B) (C) (D)	42. (A) (B) (C) (D)	62. (A) (B) (C) (D)											
3. (A) (B) (C) (D)	23. (A) (B) (C) (D)	43. (A) (B) (C) (D)	63. (A) (B) (C) (D)											
4. (A) (B) (C) (D)	24. (A) (B) (C) (D)	44. (A) (B) (C) (D)	64. (A) (B) (C) (D)											
5. (A) (B) (C) (D)	25. (A) (B) (C) (D)	45. (A) (B) (C) (D)	65. (A) (B) (C) (D)											
6. (A) (B) (C) (D)	26. (A) (B) (C) (D)	46. (A) (B) (C) (D)	66. (A) (B) (C) (D)											
7. (A) (B) (C) (D)	27. (A) (B) (C) (D)	47. (A) (B) (C) (D)	67. (A) (B) (C) (D)											
8. (A) (B) (C) (D)	28. (A) (B) (C) (D)	48. (A) (B) (C) (D)	68. (A) (B) (C) (D)											
9. (A) (B) (C) (D)	29. (A) (B) (C) (D)	49. (A) (B) (C) (D)	69. (A) (B) (C) (D)											
10. (A) (B) (C) (D)	30. (A) (B) (C) (D)	50. (A) (B) (C) (D)	70. (A) (B) (C) (D)											
11. (A) (B) (C) (D)	31. (A) (B) (C) (D)	51. (A) (B) (C) (D)	71. (A) (B) (C) (D)											
12. (A) (B) (C) (D)	32. (A) (B) (C) (D)	52. (A) (B) (C) (D)	72. (A) (B) (C) (D)											
13. (A) (B) (C) (D)	33. (A) (B) (C) (D)	53. (A) (B) (C) (D)	73. (A) (B) (C) (D)											
14. (A) (B) (C) (D)	34. (A) (B) (C) (D)	54. (A) (B) (C) (D)	74. (A) (B) (C) (D)											
15. (A) (B) (C) (D)	35. (A) (B) (C) (D)	55. (A) (B) (C) (D)	75. (A) (B) (C) (D)											
16. (A) (B) (C) (D)	36. (A) (B) (C) (D)	56. (A) (B) (C) (D)												
17. (A) (B) (C) (D)	37. (A) (B) (C) (D)	57. (A) (B) (C) (D)												
18. (A) (B) (C) (D)	38. (A) (B) (C) (D)	58. (A) (B) (C) (D)												
19. (A) (B) (C) (D)	39. (A) (B) (C) (D)	59. (A) (B) (C) (D)												
20. (A) (B) (C) (D)	40. (A) (B) (C) (D)	60. (A) (B) (C) (D)												