

Mental Maths Questions: Mental maths questions are an excellent way to enhance students calculation skills and improve their number sense. These questions require quick thinking and problem-solving abilities without the help of paper and pencil.

For example students might be asked to solve simple addition and subtraction problems such as calculating the total cost of items in a shopping list or finding the difference between two numbers.

More advanced questions may involve multiplication or division, such as determining how many groups of a certain size can be made from a total. Incorporating mental maths into daily practice can boost confidence, speed and accuracy in mathematics, making it an important skill for academic success.

Mental Maths Questions Overview

Mental maths questions help enhance students calculation skills and boost their confidence in handling numbers. These questions are prepared by subject experts from Physics Wallah and focus on fundamental arithmetic operations that can be solved quickly in one's head. Here are three examples of mental maths questions:

1. **Addition:** What is $47 + 36$?
2. **Subtraction:** If you have 125 apples and give away 48, how many apples do you have left?
3. **Multiplication:** Calculate 8×7 without using a calculator.

Mental Maths Questions PDF

Mental Maths Questions PDF provides a detailed collection of questions aimed at enhancing students calculation skills and number sense. This resource includes various types of mental maths problems, such as addition, subtraction, multiplication and division designed to be solved quickly and efficiently.

By practicing these questions students can improve their speed and accuracy in maths which is important for academic success. To access the PDF please find the link available below.

Mental Maths Questions PDF

Mental Maths Questions with Solution

Here are some mental maths questions along with their solutions to help students enhance their calculation skills:

Question 1: Calculate mentally:

(i) $120 + 80 + 756 + 40$

(ii) $74 + 23$

(iii) $57 + 89$

(iv) $340 + 30 + 40$

(v) $208 + 92$

Solution:

(i) $120 + 80 + 756 + 40 = 996$

We shall use the addition by grouping

$$120 + 80 = 200$$

$$50 + 40 + 6 = 96$$

$$700 + 200 + 96 = 996$$

(ii) $74 + 23 = 97$

We shall use left-to-right addition

$$74 + 20 = 94$$

$$94 + 3 = 97$$

(iii) $57 + 89 = 146$

We can use addition without carrying but it is easier to use addition with grouping

$$(56 + 1) + 89 = 56 + 90 = 146$$

(iv) $340 + 30 + 40$

We can use addition by grouping

$$40 \times 2 + 30$$

$$= 80 + 30 = 110$$

$$110 + 300 = 410$$

Question 2: Calculate mentally:

(i) $12 - 8$

(ii) $17 - 9$

(iii) $294 - 189$

(iv) $34 - 27$

(v) $2378 - 1876$

Solution:

(i) $12 - 8 = 4$

We use the trick to subtract a single-digit number from a teen number.

$$10 - 8 = 2$$

$$2 + 2 = 4$$

(ii) $17 - 9 = 8$

We use the trick to subtract a single-digit number from a teen number.

$$10 - 9 = 1$$

$$7 + 1 = 8$$

(iii) $294 - 189 = 105$

We shall use the technique of subtraction without borrowing

$$94 - 89 = 5 \text{ (Use subtraction by rounding)}$$

$$\therefore 234 - 189 = 105$$

(iv) $34 - 27 = 7$

Use subtraction by rounding

$$34 - 30 = 4$$

$$\therefore 27 + 3 = 30$$

$$\therefore 4 + 3 = 7$$

Question 3: Calculate mentally:

(i) $248 - 25 + 87$

(ii) $305 + 45 + 23$

(iii) $820 + 23 - 20$

Solution:

(i) $248 - 25 + 87 = 310$

Step I: $248 + 87 = 245 + 90$

$= 200 + (90 + 45)$

$= 200 + 135 = 335$

Step II: $335 - 25 = 310$

(ii) $305 + 45 + 23 = 373$

$300 + (45 + 5) = 350$

$350 + 20 = 370$

$370 + 3 = 373$

(iii) $820 + 23 - 20 = 823$

$23 - 20 = 3$

$820 + 3 = 823$

Multiplication Tricks:

- **Multiplication by distributivity:** Suppose we have to multiply $27 \times 8 = (20 + 7) \times 8$

Step I: $20 \times 8 = 160$

Step II: $7 \times 8 = 56$

Step III: $160 + 56 = 216$

- **Multiplication with number ending with 5:** This technique can be used when multiplying number by a number ending with 5 (15, 25, 35, ...)

For example, 34×15

Step I: Double 15, $15 \times 2 = 30$

Step II: Half 34, $34 \div 2 = 17$

Step III: 17×30 , we can consider it as $17 \times 3 \times 10 = 510$

- **Multiplication with 11:** Suppose 23×11

This can be calculated as $23 \times 11 = 2(2+3)3$, that is $23 \times 11 = 253$

- **Multiplication of any number by 50:** Just half the number and multiply it by 100.

For example, 12×50

$$12 \div 2 = 6 \text{ and } 6 \times 100 = 600$$

$$\therefore 12 \times 50 = 600$$

Question 4: Calculate mentally:

(i) 14×11

(ii) 98×11

(iii) 47×11

(iv) 456×11

Solution:

(i) $14 \times 11 = 154$

Calculate like this, $14 \times 11 = 1(1+4)4$.

(ii) $98 \times 11 = 1078$

Since, $9(9+8)8 = 9(17)8 = 1078$

1 of 17 is carried over to 9, $9 + 1 = 10$.

(iii) $47 \times 11 = 517$

Since, $4(4+7)7 = 4(11)7 = 517$

1 of 11 is carried over to 4, $4 + 1 = 5$.

(iv) $456 \times 11 = 5016$

Just add $4560 + 456 = 5016$.

Question 5: Calculate mentally:

(i) 26×25

(ii) 35×17

(iii) 46×15

(iii) 154×25

Solution:

(i) $26 \times 25 = 650$

Half 26 and double 25, 13×50

Now, $13/2 = 6.5$ and $6.5 \times 100 = 650$.

(ii) $35 \times 17 = 595$

Half 17 and double 35, so that we get 8.5×70

Simply calculate $85 \times 7 = (80 + 5) \times 7 = 560 + 35 = 595$.

(iii) $46 \times 15 = 690$

Half 46 and double 15, so that we get $23 \times 30 = 690$.

(iv) $154 \times 25 = 3850$

Half 154 and double 50, so that we get 77×50

Then, $77/2 \times 100 = 38.5 \times 100 = 3850$.

Few Division Tricks:

Division with 2: Its easy to divide any number by 2 when its even, but it is odd, do the following:

For example: $77 \div 2$, now 77 is an odd number,

Step I: take $77 - 1 = 76$

Step II: half 76, $76 \div 2 = 38$

Step III: place a .5 after 38, therefore $77 \div 2 = 38.5$

Division by factor 10, 100, 1000, ...: For example, $541 \div 25$

Now $25 \times 4 = 100 \Rightarrow 25 = 100/4$, to find $541 \div 25$

Step I: $541 \times 4 = 2164$

Step II: $2164/100 = 21.64$

Similarly,

to divide with 5, multiply the number by $2/10$, to divide with 125, multiply the number by $8/1000$, and so on. Division by 75: Multiply the number by $4/3$ then divide it by 100.

Question 6: Calculate mentally:

(i) $387 \div 2$

(ii) $8761 \div 2$

(iii) $47 \div 2$

(iv) $91 \div 2$

Solution:

(i) $387 \div 2 = 193.5$

$386 \div 2 = 193$

$\therefore 387 \div 2 = 193.5$

(ii) $8761 \div 2 = 4380.5$

(iii) $47 \div 2 = 23.5$

(iv) $91 \div 2 = 45.5$

Question 7: Calculate:

(i) $234 \div 25$

(ii) $827 \div 5$

(iii) $1356 \div 125$

(iv) $187 \div 50$

Solution:

(i) $234 \div 25 = 9.36$

Step I: $234 \times 4 = 936$

Step II: $936/100 = 9.36$

(ii) $827 \div 5 = 165.4$

Step I: $827 \times 2 = 1654$

Step II: $1654/10 = 165.4$

(iii) $1356 \div 125 = 10.848$

Step I: $1356 \times 8 = 10848$

Step II: $10848/1000 = 10.848$

(iv) $187 \div 50 = 3.74$

Step I: $187 \times 2 = 374$

Step II: $374/100 = 3.74$

Question 8: Calculate the following:

(i) $282 \div 75$

(ii) $45 \div 75$

(iii) $351 \div 75$

Solution:

(i) $281 \div 75 = 3.76$

Step I: $282 \div 3 = 94$

Step II: $94 \times 4 = 376$

Step III: $376 \div 100 = 3.76$

(ii) $45 \div 75$

Step I: $45 \div 3 = 15$

Step II: $15 \times 4 = 60$

Step III: $60 \div 100 = 0.6$

(iii) $351 \div 75$

Step I: $351 \div 3 = 117$

Step II: $117 \times 4 = 468$

Step III: $468 \div 100 = 4.68$

Percentages Tricks:

- **Convert any fraction in percentage:** For any given fraction, multiply the numerator by 100, then divide the denominator.

For example, $57/75$ into percentage

Step I: $57 \times 100 = 5700$

Step II: $5700/75 = 76\%$

- **Percentage of any number:** Just multiply both the numbers by 10, then multiply those numbers. For example, 30% of 75

Step I: $30/10 = 3.0$ and $75/10 = 7.5$

Step II: $3 \times 7.5 = 22.5$

Question 9: Convert the following into percentages:

(i) $3.4/17$ (ii) $18/50$ (iii) $29/45$

Solution:

(i) $3.4/17 = 20\%$

Step I: $3.4 \times 100 = 340$

Step II: $340/17 = 20\%$

(ii) $18/50 = 36\%$

Step I: $18 \times 100 = 1800$

Step II: $1800/50 = 36\%$

(iii) $29/45 = 64.44\%$ (approx)

Step I: $29 \times 100 = 2900$

Step II: $2900/45 = 64.44$

Question 10: Evaluate the following:

(i) 7% of 250 (ii) 16% of 45

Solution:

(i) 7% of 250 = 17.5

Step I: $7/10 = 0.7$ and $250/10 = 25.0$

Step II: $0.7 \times 25 = 17.5$

= 17.5

(ii) 16% of 45 = 7.2

Step I: $16/10 = 1.6$ and $45/10 = 4.5$

Step II: $1.6 \times 4.5 = 7.2$

Practice Questions on Mental Maths

Here are some practice questions on mental maths along with their solutions to help enhance your calculation skills:

1. Calculate mentally:

(i) $2896 + 386$

(ii) $345 + 90$

(iii) $347 - 94$

(iv) $12 - 34 + 4$

(v) $267 - 56 - 32$

(vi) 11×234

(vii) 25×116

(viii) $567 \div 2$

(ix) $1947 \div 2$

(x) $239 \div 25$

2. Convert the following into percentages:

(i) $38/7$ (ii) $65/8$ (iii) $45/3$

3. Evaluate the following:

(i) 12% of 225 (ii) 11% of 200

Benefits of Mental Maths Questions

- **Faster Calculations:** Practicing mental maths helps students calculate quickly which is useful during exams.
- **Increased Confidence:** Successfully solving mental maths questions boosts students confidence in their math skills.
- **Improved Number Sense:** Regular practice helps students understand numbers better and see how they relate to each other.
- **Greater Independence:** Mental maths allows students to solve problems on their own without using calculators.
- **Enhanced Focus:** Doing mental calculations requires attention which can improve overall focus in studies.
- **Preparation for Advanced Maths:** Mastering mental maths lays a strong foundation for learning more complex math topics later.
- **Better Time Management:** Practicing mental maths helps students manage their time better during tests.
- **Fun Learning:** Mental maths can be turned into games or challenges making it enjoyable for students.