

Adding Column Addition and Partitioning Methods

By The Madmathics Team.



Method 1 – Column Addition

• Example: $-32 + 56 =$

1. Write this sum out in a column structure:

$$\begin{array}{r} + 32 \\ 56 \\ \hline \hline \end{array}$$

2. Next we need to work out the answer too the sum by adding the numbers in columns like this:

$$\begin{array}{r} + 32 \\ 56 \\ \hline 88 \\ \hline \end{array}$$



$$\begin{array}{r} 2 + 6 = 8 \\ 3 + 5 = 8 \end{array}$$

Answer
88

Method 1 – Column Addition (regrouping)

- Example: $- 24 + 68 =$

1. Write this sum out in a column structure:

$$\begin{array}{r} 24 \\ + 68 \\ \hline \hline \end{array}$$

2. Next we need to work out the answer too the sum by adding the numbers in columns like this:

$$\begin{array}{r} 24 \\ + 68 \\ \hline 92 \\ \hline \end{array} \left. \vphantom{\begin{array}{r} 24 \\ + 68 \\ \hline 92 \\ \hline \end{array}} \right\} \longrightarrow \begin{array}{l} 4 + 8 = 12 \\ \text{carry 1 to the} \\ \text{next column then do:} \\ 2 + 6 + 1 = 9 \end{array} \quad \begin{array}{l} \text{Answer} \\ = \underline{\underline{92}} \end{array}$$

Method 2 – Partitioning

• Example - $24 + 35 =$

1. First we need to partition the numbers like this:

$$\begin{array}{r} 24 \\ / \quad \backslash \\ 20 \quad 4 \end{array} + \begin{array}{r} 35 \\ / \quad \backslash \\ 30 \quad 5 \end{array}$$

2. Now we need to add the numbers we have partitioned to get an answer like this:

1. add tens column = $20 + 30 = 50$

2. add ones column = $4 + 5 = 9$

$$50 + 9 = \underline{\underline{59}}$$

Method 2 – Partitioning (with carries)

• Example – $32 + 59 =$

1. First we need to partition the numbers like this:

$$\begin{array}{r} 32 \\ 30 \quad 2 \\ + \quad 59 \\ 50 \quad 9 \end{array}$$

2. Now we need to add the partitioned numbers to get an answer like this:

1. add the tens column = $30 + 50 = 80$
2. add the ones column = $2 + 9 = 11$

$$80 + 11 = \underline{\underline{91}}$$

Now try these:

1. $32 + 43 =$

6. $96 + 14 =$

2. $42 + 94 =$

7. $19 + 43 =$

3. $29 + 61 =$

8. $52 + 71 =$

4. $45 + 20 =$

9. $31 + 69 =$

5. $71 + 84 =$

10. $49 + 90 =$

Challenge – see if you can add 3 digit numbers using either the partitioning or column addition method:

1. $132 + 123 =$

2. $100 + 109 =$

Answers

- | | |
|--------|---------|
| 1. 75 | 6. 110 |
| 2. 136 | 7. 62 |
| 3. 90 | 8. 123 |
| 4. 65 | 9. 100 |
| 5. 155 | 10. 139 |

Challenge:

- $132 + 123 = 255$
- $100 + 109 = 209$

Thank you! Don't forget to check out our worksheets.