

Memorizing Multiplication Facts

A-MM 1

Memorizing the Multiplication Table can be a challenge. Fortunately, a few basic math rules reduce the amount of multiplication facts that you need to actually memorize. This page is a summary of those rules.

Multiplication Rules:

1. Zero Property : Anything times zero is zero.

You don't have to memorize multiplication facts involving zero.
The answer is always just 0.

Example: $7 \times 0 = 0$

2. Identity Property : Anything times 1 is just itself.

You don't have to memorize multiplication facts involving 1.
The answer is always just the same number you started with.

Example: $9 \times 1 = 9$

3. Times 10 : Anything times 10 just gets an extra zero stuck to the end.

You don't have to memorize multiplication facts involving 10.
You just put an extra zero on the end of the number being multiplied by 10.

Example: $4 \times 10 = 40$

4. Commutative Property : You can switch the order of a multiplication problem.

You don't have to memorize both combinations of a multiplication problem.
You get the same answer no matter which order the numbers are in.

If you know:
 $3 \times 5 = 15$

Then you also know:
 $5 \times 3 = 15$

Multiplication Table:

Knowing the rules above means that you only really need to memorize the 36 multiplication facts shown in white on this table.

	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

Review of Basic Multiplication Facts

A-MM 2

Instructions: Multiply these numbers. (This set includes the 36 multiplication facts you really need to memorize.)

$$\begin{array}{r} 5 \\ \times 8 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 7 \\ \times 5 \\ \hline 35 \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline 21 \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 8 \\ \times 9 \\ \hline 72 \end{array}$$

$$\begin{array}{r} 4 \\ \times 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline 48 \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline 56 \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline 49 \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 9 \\ \times 3 \\ \hline 27 \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline 45 \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline 25 \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array}$$

$$\begin{array}{r} 8 \\ \times 4 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline 63 \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 6 \\ \times 9 \\ \hline 54 \end{array}$$

Re-Writing Multiplication Problems

A-MM 3

Instructions: Re-write these multiplication problems in stacked form. You do NOT need to actually multiply them.

1 84×7

$$\begin{array}{r} 84 \\ \times 7 \\ \hline \end{array}$$

2 6×143

$$\begin{array}{r} 143 \\ \times 6 \\ \hline \end{array}$$

3 4×19

$$\begin{array}{r} 19 \\ \times 4 \\ \hline \end{array}$$

4 8×135

$$\begin{array}{r} 135 \\ \times 8 \\ \hline \end{array}$$

5 78×5

$$\begin{array}{r} 78 \\ \times 5 \\ \hline \end{array}$$

6 716×4

$$\begin{array}{r} 716 \\ \times 4 \\ \hline \end{array}$$

7 320×9

$$\begin{array}{r} 320 \\ \times 9 \\ \hline \end{array}$$

8 6×512

$$\begin{array}{r} 512 \\ \times 6 \\ \hline \end{array}$$

9 $1,061 \times 5$

$$\begin{array}{r} 1,061 \\ \times 5 \\ \hline \end{array}$$

10 $7 \times 2,378$

$$\begin{array}{r} 2,378 \\ \times 7 \\ \hline \end{array}$$

Multi-Digit Multiplication

A-MM 4

Instructions: Follow the procedure you learned in the video to multiply these numbers.

1

$$\begin{array}{r} 62 \\ \times 3 \\ \hline 186 \end{array}$$

2

$$\begin{array}{r} 97 \\ \times 2 \\ \hline 194 \end{array}$$

3

$$\begin{array}{r} 38 \\ \times 5 \\ \hline 190 \end{array}$$

4

$$\begin{array}{r} 18 \\ \times 6 \\ \hline 108 \end{array}$$

5

$$\begin{array}{r} 26 \\ \times 6 \\ \hline 156 \end{array}$$

6

$$\begin{array}{r} 67 \\ \times 3 \\ \hline 201 \end{array}$$

7

$$\begin{array}{r} 52 \\ \times 4 \\ \hline 208 \end{array}$$

8

$$\begin{array}{r} 33 \\ \times 8 \\ \hline 264 \end{array}$$

9

$$\begin{array}{r} 57 \\ \times 4 \\ \hline 228 \end{array}$$

10

$$\begin{array}{r} 64 \\ \times 8 \\ \hline 512 \end{array}$$

11

$$\begin{array}{r} 135 \\ \times 5 \\ \hline 675 \end{array}$$

12

$$\begin{array}{r} 216 \\ \times 4 \\ \hline 864 \end{array}$$

Multi-Digit Multiplication - Set 2

A-MM 5

Instructions: Follow the procedure you learned in the video to multiply these numbers.

$$\begin{array}{r} 1 \\ 346 \\ \times 2 \\ \hline 692 \end{array}$$

$$\begin{array}{r} 1 \\ 402 \\ \times 7 \\ \hline 2,814 \end{array}$$

$$\begin{array}{r} 12 \\ 145 \\ \times 4 \\ \hline 580 \end{array}$$

$$\begin{array}{r} 31 \\ 873 \\ \times 5 \\ \hline 4,365 \end{array}$$

$$\begin{array}{r} 1 \\ 841 \\ \times 3 \\ \hline 2,523 \end{array}$$

$$\begin{array}{r} 8 \\ 609 \\ \times 9 \\ \hline 5,481 \end{array}$$

$$\begin{array}{r} 2 \\ 419 \\ \times 3 \\ \hline 1,257 \end{array}$$

$$\begin{array}{r} 11 \\ 586 \\ \times 2 \\ \hline 1,172 \end{array}$$

$$\begin{array}{r} 26 \\ 728 \\ \times 8 \\ \hline 5,824 \end{array}$$

$$\begin{array}{r} 1 \\ 820 \\ \times 6 \\ \hline 4,920 \end{array}$$

$$\begin{array}{r} 32 \\ 243 \\ \times 9 \\ \hline 2,187 \end{array}$$

$$\begin{array}{r} 24 \\ 536 \\ \times 7 \\ \hline 3,752 \end{array}$$

Multi-Digit Multiplication - Set 3

A-MM 6

Instructions: Follow the procedure you learned in the video to multiply these numbers.

$$\begin{array}{r} \text{1} \quad \quad 3 \\ \quad 24 \\ \times \quad 8 \\ \hline 192 \end{array}$$

$$\begin{array}{r} \text{2} \quad \quad 1 \\ \quad 63 \\ \times \quad 5 \\ \hline 315 \end{array}$$

$$\begin{array}{r} \text{3} \quad \quad 2 \\ \quad 73 \\ \times \quad 7 \\ \hline 511 \end{array}$$

$$\begin{array}{r} \text{4} \quad \quad 51 \\ \times \quad 9 \\ \hline 459 \end{array}$$

$$\begin{array}{r} \text{5} \quad \quad 2 \\ \quad 329 \\ \times \quad 3 \\ \hline 987 \end{array}$$

$$\begin{array}{r} \text{6} \quad \quad 11 \\ \quad 795 \\ \times \quad 2 \\ \hline 1,590 \end{array}$$

$$\begin{array}{r} \text{7} \quad \quad 2 \\ \quad 617 \\ \times \quad 4 \\ \hline 2,468 \end{array}$$

$$\begin{array}{r} \text{8} \quad \quad 22 \\ \quad 834 \\ \times \quad 6 \\ \hline 5,004 \end{array}$$

$$\begin{array}{r} \text{9} \quad \quad 1 \quad 2 \\ \quad 1,306 \\ \times \quad 4 \\ \hline 5,224 \end{array}$$

$$\begin{array}{r} \text{10} \quad \quad 1 \quad 5 \quad 3 \\ \quad 3,286 \\ \times \quad 6 \\ \hline 19,716 \end{array}$$

$$\begin{array}{r} \text{11} \quad \quad 2 \quad 1 \\ \quad 9,312 \\ \times \quad 8 \\ \hline 74,496 \end{array}$$

$$\begin{array}{r} \text{12} \quad \quad 2 \\ \quad 4,072 \\ \times \quad 3 \\ \hline 12,216 \end{array}$$