

## Multi-Digit Multiplication

**1**  $14 \times 2$

**2**  $213 \times 2$

**3**  $65 \times 3$

**4**  $25 \times 7$

**5**

$$\begin{array}{r} 241 \\ \times \quad 5 \\ \hline \end{array}$$

**6**

$$\begin{array}{r} 460 \\ \times \quad 3 \\ \hline \end{array}$$

**7**

$$\begin{array}{r} 1,605 \\ \times \quad 7 \\ \hline \end{array}$$

**8**

$$\begin{array}{r} 23,961 \\ \times \quad 4 \\ \hline \end{array}$$

## Multi-Digit Multiplication

**1**  $14 \times 2$

$$\begin{array}{r} 14 \\ \times 2 \\ \hline 28 \end{array}$$

**2**  $213 \times 2$

$$\begin{array}{r} 213 \\ \times 2 \\ \hline 426 \end{array}$$

**3**  $65 \times 3$

$$\begin{array}{r} 1 \\ 65 \\ \times 3 \\ \hline 195 \end{array}$$

**4**  $25 \times 7$

$$\begin{array}{r} 3 \\ 25 \\ \times 7 \\ \hline 175 \end{array}$$

**5**

$$\begin{array}{r} 2 \\ 241 \\ \times 5 \\ \hline 1,205 \end{array}$$

**6**

$$\begin{array}{r} 1 \\ 460 \\ \times 3 \\ \hline 1,380 \end{array}$$

**7**

$$\begin{array}{r} 4 \quad 3 \\ 1,605 \\ \times 7 \\ \hline 11,235 \end{array}$$

**8**

$$\begin{array}{r} 1 \quad 3 \quad 2 \\ 23,961 \\ \times 4 \\ \hline 95,844 \end{array}$$

## 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.)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## 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  $84 \times 7$

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

2  $6 \times 143$

3  $4 \times 19$

4  $8 \times 135$

5  $78 \times 5$

6  $716 \times 4$

7  $320 \times 9$

8  $6 \times 512$

9  $1,061 \times 5$

10  $7 \times 2,378$

## Multi-Digit Multiplication

A-MM 4

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

$$\begin{array}{r} \text{1} \quad 62 \\ \times \quad 3 \\ \hline 186 \end{array}$$

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

$$\begin{array}{r} \text{3} \quad 38 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{4} \quad 18 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{5} \quad 26 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{6} \quad 67 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} \text{7} \quad 52 \\ \times \quad 4 \\ \hline \end{array}$$

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

$$\begin{array}{r} \text{9} \quad 57 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{10} \quad 64 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{11} \quad 135 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{12} \quad 216 \\ \times \quad 4 \\ \hline \end{array}$$

## Multi-Digit Multiplication - Set 2

A-MM 5

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

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

$$\begin{array}{r} \text{2} \quad 402 \\ \times \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} \text{3} \quad 145 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{4} \quad 873 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{5} \quad 841 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} \text{6} \quad 609 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} \text{7} \quad 419 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} \text{8} \quad 586 \\ \times \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{9} \quad 728 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{10} \quad 820 \\ \times \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{11} \quad 243 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} \text{12} \quad 536 \\ \times \quad 7 \\ \hline \end{array}$$

## Multi-Digit Multiplication - Set 3

A-MM 6

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

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

2 
$$\begin{array}{r} 63 \\ \times 5 \\ \hline \end{array}$$

3 
$$\begin{array}{r} 73 \\ \times 7 \\ \hline \end{array}$$

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

5 
$$\begin{array}{r} 329 \\ \times 3 \\ \hline \end{array}$$

6 
$$\begin{array}{r} 795 \\ \times 2 \\ \hline \end{array}$$

7 
$$\begin{array}{r} 617 \\ \times 4 \\ \hline \end{array}$$

8 
$$\begin{array}{r} 834 \\ \times 6 \\ \hline \end{array}$$

9 
$$\begin{array}{r} 1,306 \\ \times 4 \\ \hline \end{array}$$

10 
$$\begin{array}{r} 3,286 \\ \times 6 \\ \hline \end{array}$$

11 
$$\begin{array}{r} 9,312 \\ \times 8 \\ \hline \end{array}$$

12 
$$\begin{array}{r} 4,072 \\ \times 3 \\ \hline \end{array}$$



## Memorizing Multiplication Facts

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**Example:**  $7 \times 0 = 0$

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**Example:**  $9 \times 1 = 9$

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	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  $84 \times 7$

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

2  $6 \times 143$

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

3  $4 \times 19$

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

4  $8 \times 135$

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

5  $78 \times 5$

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

6  $716 \times 4$

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

7  $320 \times 9$

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

8  $6 \times 512$

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

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

$$\begin{array}{r} 1 \\ 97 \\ \times 2 \\ \hline 194 \end{array}$$

3

$$\begin{array}{r} 4 \\ 38 \\ \times 5 \\ \hline 190 \end{array}$$

4

$$\begin{array}{r} 4 \\ 18 \\ \times 6 \\ \hline 108 \end{array}$$

5

$$\begin{array}{r} 3 \\ 26 \\ \times 6 \\ \hline 156 \end{array}$$

6

$$\begin{array}{r} 2 \\ 67 \\ \times 3 \\ \hline 201 \end{array}$$

7

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

8

$$\begin{array}{r} 2 \\ 33 \\ \times 8 \\ \hline 264 \end{array}$$

9

$$\begin{array}{r} 2 \\ 57 \\ \times 4 \\ \hline 228 \end{array}$$

10

$$\begin{array}{r} 3 \\ 64 \\ \times 8 \\ \hline 512 \end{array}$$

11

$$\begin{array}{r} 12 \\ 135 \\ \times 5 \\ \hline 675 \end{array}$$

12

$$\begin{array}{r} 2 \\ 216 \\ \times 4 \\ \hline 864 \end{array}$$

## 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.

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

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

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

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

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

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

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

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

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

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

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

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