

# 8. [Large Number ×]

**Skill 8.1** Multiplying a large number by a single digit without carry over, using columns.

MM5 11 22 33 44  
MM6 11 22 33 44

- Multiply the units, tens, hundreds and thousands by the single digit.
- Multiply from right to left.

**Q.**

$$\begin{array}{r} 312 \\ \times 3 \\ \hline \end{array}$$

**A.**

$$\begin{array}{r} \text{hundreds} \quad \text{tens} \quad \text{units} \\ 312 \\ \times 3 \\ \hline 936 \end{array}$$

Units first!

**Units:**  
 $3 \times 2 = 6 \Rightarrow 6 \text{ units}$

**Tens:**  
 $3 \times 1 = 3 \Rightarrow 3 \text{ tens}$

**Hundreds:**  
 $3 \times 3 = 9 \Rightarrow 9 \text{ hundreds}$

**a)**

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

Units first!

**b)**

$$\begin{array}{r} 22 \\ \times 4 \\ \hline \end{array}$$

**c)**

$$\begin{array}{r} 23 \\ \times 3 \\ \hline \end{array}$$

**d)**

$$\begin{array}{r} 68 \\ \times 1 \\ \hline \end{array}$$

**e)**

$$\begin{array}{r} 32 \\ \times 3 \\ \hline \end{array}$$

**f)**

$$\begin{array}{r} 41 \\ \times 2 \\ \hline \end{array}$$

**g)**

$$\begin{array}{r} 43 \\ \times 2 \\ \hline \end{array}$$

**h)**

$$\begin{array}{r} 32 \\ \times 2 \\ \hline \end{array}$$

**i)**

$$\begin{array}{r} 123 \\ \times 3 \\ \hline \end{array}$$

Units first!

**j)**

$$\begin{array}{r} 332 \\ \times 2 \\ \hline \end{array}$$

**k)**

$$\begin{array}{r} 808 \\ \times 1 \\ \hline \end{array}$$

**l)**

$$\begin{array}{r} 112 \\ \times 3 \\ \hline \end{array}$$

**m)**

$$\begin{array}{r} 340 \\ \times 2 \\ \hline \end{array}$$

**n)**

$$\begin{array}{r} 131 \\ \times 3 \\ \hline \end{array}$$

**o)**

$$\begin{array}{r} 413 \\ \times 2 \\ \hline \end{array}$$

**p)**

$$\begin{array}{r} 322 \\ \times 3 \\ \hline \end{array}$$

**Skill 8.2** Multiplying a large number by a single digit with carry over, using columns.

MM5 1 1 2 2 3 3 4 4  
MM6 1 1 2 2 3 3 4 4

- Multiply the units, tens, hundreds and thousands by the single digit.
- Multiply from right to left.
- If there is a 'carry over': First multiply. Then add on the carry over.

**Q.**

$$\begin{array}{r} 119 \\ \times 8 \\ \hline \end{array}$$

**A.**

$$\begin{array}{r} \text{hundreds} \quad \text{tens} \quad \text{units} \\ 1 \quad 1 \quad 9 \\ \times 8 \\ \hline 9 \quad 5 \quad 2 \end{array}$$

Units first!

**Units:**

$$8 \times 9 = 72$$

72 units = 7 tens and 2 units  $\Rightarrow$  2 units  
Carry over the 7 tens to the tens column.

**Tens:**

$$8 \times 1 = 8$$

$$8 + 7 \text{ (carry over)} = 15$$

15 tens = 1 hundred and 5 tens  $\Rightarrow$  5 tens  
Carry over the 1 hundred to the hundreds column.

**Hundreds:**

$$8 \times 1 = 8$$

$$8 + 1 \text{ (carry over)} = 9 \Rightarrow 9 \text{ hundreds}$$

**a)**

$$\begin{array}{r} 4 \quad 80 \\ \times 5 \\ \hline 400 \end{array}$$

Units first!

**b)**

$$\begin{array}{r} 90 \\ \times 4 \\ \hline \end{array}$$

**c)**

$$\begin{array}{r} 94 \\ \times 2 \\ \hline \end{array}$$

**d)**

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

**e)**

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

**f)**

$$\begin{array}{r} 23 \\ \times 7 \\ \hline \end{array}$$

**g)**

$$\begin{array}{r} 43 \\ \times 5 \\ \hline \end{array}$$

**h)**

$$\begin{array}{r} 82 \\ \times 6 \\ \hline \end{array}$$

**i)**

$$\begin{array}{r} 1 \quad 64 \\ \times 2 \\ \hline 328 \end{array}$$

Units first!

**j)**

$$\begin{array}{r} 207 \\ \times 5 \\ \hline \end{array}$$

**k)**

$$\begin{array}{r} 109 \\ \times 7 \\ \hline \end{array}$$

**l)**

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

**m)**

$$\begin{array}{r} 140 \\ \times 6 \\ \hline \end{array}$$

**n)**

$$\begin{array}{r} 167 \\ \times 3 \\ \hline \end{array}$$

**o)**

$$\begin{array}{r} 410 \\ \times 8 \\ \hline \end{array}$$

**p)**

$$\begin{array}{r} 422 \\ \times 5 \\ \hline \end{array}$$

### Skill 8.3 Multiplying a large number by a two-digit number, using columns.

MM5 11 22 33 44  
MM6 11 22 33 44

- Multiply by the unit digit first, working from right to left.  
*Reminder: Put a zero in the units place before you start multiplying by the tens.*
- Then multiply by the ten digit, working from right to left.
- Add the results last.

**Q.**

$$\begin{array}{r} 85 \\ \times 14 \\ \hline \end{array}$$

**A.**

$$\begin{array}{r} \text{thousands} \quad \text{hundreds} \quad \text{tens} \quad \text{units} \\ 85 \\ \times 14 \\ \hline 340 \end{array}$$

First multiply 85 by the 4 units.

**Units:**

$4 \times 5 = 20$

20 units = 2 tens and 0 units  $\Rightarrow$  0 units

Carry over the 2 tens to the tens column.

**Tens:**

$4 \times 8 = 32$

$32 + 2$  (carry over) = 34

34 tens = 3 hundreds and 4 tens  $\Rightarrow$  4 tens

**Hundreds:**

$\Rightarrow$  3 hundreds

Then multiply 85 by the 1 ten.

**Units:**

Write 0 as a place holder for the ten.

$\Rightarrow$  0 units

**Tens:**

$1 \times 5 = 5$

$\Rightarrow$  5 tens

**Hundreds:**

$1 \times 8 = 8$

$\Rightarrow$  8 hundreds

Add these results:  $340 + 850 = 1190$

$$\begin{array}{r} 85 \\ \times 14 \\ \hline 340 \\ 850 \\ \hline 1190 \end{array}$$

**a)**

$$\begin{array}{r} 34 \\ \times 21 \\ \hline 734 \\ 680 \\ \hline 714 \end{array}$$

**b)**

$$\begin{array}{r} 15 \\ \times 32 \\ \hline 30 \\ \hline \end{array}$$

**c)**

$$\begin{array}{r} 24 \\ \times 43 \\ \hline \end{array}$$

**d)**

$$\begin{array}{r} 71 \\ \times 62 \\ \hline \end{array}$$

**e)**

$$\begin{array}{r} 55 \\ \times 45 \\ \hline \end{array}$$

**f)**

$$\begin{array}{r} 82 \\ \times 73 \\ \hline \end{array}$$

**g)**

$$\begin{array}{r} 46 \\ \times 38 \\ \hline \end{array}$$

**h)**

$$\begin{array}{r} 33 \\ \times 96 \\ \hline \end{array}$$