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## Two-Digit Multiplication

Multiplying a 2-digit number by a 1-digit number may seem difficult at first. However, if you arrange the numbers in columns, you will find how easy these problems really are.

**EXAMPLE**:  $20 \times 2 = ?$ 



$$\begin{array}{c|c} \text{STEP 1} \\ \hline & 20 \\ x & 2 \\ \hline \end{array}$$

Arrange factors in columns.

	S	ΓΕ	P	2
_		10	1	
		2	0	
}	X		2	
_			0	•

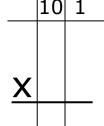
Multiply the 1s column first.

$$\begin{array}{c|c}
 & \text{STEP 3} \\
 \hline
 & 20 \\
 \hline
 & x & 2 \\
 \hline
 & 40 \\
 \end{array}$$

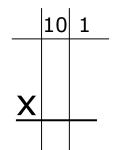
Multiply the 10s column.

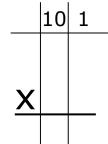
For each problem below, rewrite each problem so that the numbers are in columns. Proceed to multiply the problem and solve. Be sure to show all of your work.

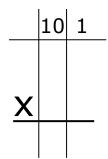
1.	43	X	2	
			10	
			·	

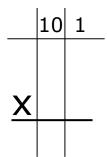


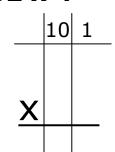
2.	<b>32</b>	3
		 _

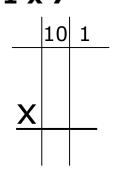


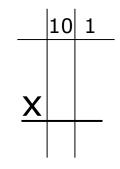




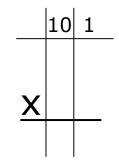








#### 9. **15 x 4**



### Two-Digit Multiplication Practice



For each problem below, multiply and regroup if necessary. Be sure to show all of your work.

14 10 15 47 23 2) 
$$\times 5$$
 6)  $\times 6$  10)  $\times 4$  14)  $\times 3$  18)  $\times 4$ 



Score:

Date:

See how many of the following multiplication problems you can solve in 2 minutes.

4 × 4

× 2

5 × 3

6 × 6

4 × 8 18 × 2 0 x 9 x 6

× 5

7 × 6

× 3

10 × 7 1 2 × 5

x 2

x 8

x 1

× 0

2 0 × 4 9 × 9 1 3 × 4

x 4

4 × 5

× 7

20 × 2

x | \_\_\_\_\_ × 5

× 3

6 x 4 1 7 × 3 7 × 7

8 × 3

× 5

5 × 6

20 × 3

× 5

× 8

1 3 × 2 19 × 1

# Minty Multiplication

Find the **product**.



## Multiplication: Regrouping



First, multiply the 5 by the 2 to get 10. The number 0 is left below and the 1 is regrouped in the tens place.



Next, multiply the 5 by the 1 in the tens place to get 5. Add the 1 you regrouped to get 6.



Finally, since the number is under 10 and does not need to be regrouped, write the 6 below in the tens place.

#### Multiply the problems below.





### Multiplication: Regrouping

 $\begin{array}{ccc}
& \frac{2}{55} \\
x & 5
\end{array}$ 

First, multiply the 5 by the 5 to get 25. The number 5 is left below and the 2 is regrouped above in the tens place.  $\frac{2^{2}}{55}$ 

Next, multiply the 5 ones by the 5 in the tens place to get 25. Add the 2 you regrouped to get 27. The 7 is left below in the tens place and the 2 is regrouped above in the hundreds place.

$$\begin{array}{c|c}
2 & 2 \\
55 \\
\hline
x & 5 \\
\hline
275
\end{array}$$

Finally, add the number 2 in the hundreds place above to the hundreds place below.

#### Multiply the problems below.

52 × 5 45 × 7 50 × 8 65 × 3

65 × 4

88 × 2 20 × 6 41 × 5 95 × 2 15 × 8

62 × 2 33 × 5 20 × 8 44 × 6 36 × 4

70 × 5 17 × 7 90 × 2 12 × 9 84 × 3



## Multiplication with Regrouping

Multiplication with regrouping is the easiest way to multiply by large numbers. Follow the steps below to learn how.



- -First, multiply the numbers in the ones place.
- -Write your result in the ones place and carry any number in the tens place forward.
- -Next, multiply the number in the tens place by the bottom number in the ones place.
- -Add the extra number you carried over to your result and write this number in the tens place.

#### **Example:**

Multiply the ones place. 
$$\frac{1}{x}$$

$$1 \times 3 = 3$$

Multiply the ones place.  $\frac{x}{1}$  Carry the 2 to the tens place.  $\frac{x}{1}$  Multiply the tens place by the bottom ones place.  $\frac{x}{1}$  Add the extra 2 and write your result.  $\frac{x}{1}$   $\frac{3}{1}$   $\frac{3}{1}$ 

your result. 
$$\frac{x}{51}$$

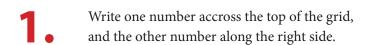
For each problem below, follow the steps used in the example to find your solution. Be sure to show all of your work.

24 13 12 19 14 15  
1) 
$$\times 3$$
 5)  $\times 4$  9)  $\times 5$  13)  $\times 3$  17)  $\times 4$  21)  $\times 6$ 

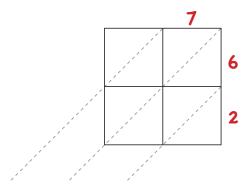
16 38 29 24 28 17 2) 
$$\times$$
 4 6)  $\times$  2 10)  $\times$  3 14)  $\times$  4 18)  $\times$  4 22)  $\times$  3

### **Lattice Multiplication**

1 Digits x 2 Digits



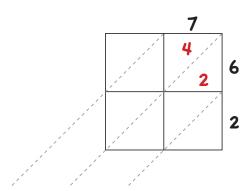
We are mulitiplying **7 x 62** 



### Multiply each single digit on the top by each single digit on the right side.

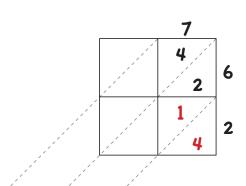
Write answer in the square. Each triangle in the square gets it's own digit. If the answer is a single digit, put 0 in the first triangle.

$$7 \times 6 = 42$$



### Continue multiplying each single digit on the right side by the single digits on the top.

$$7 \times 2 = 14$$



# Starting on the right, add numbers diagonally and write sum next to dotted line. You might have to carry two-digit sums to the next place.

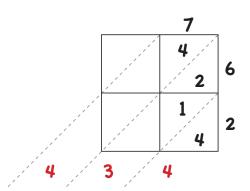
Sums from right to left:

4 (The bottom right triangle never changes.)

$$2 + 1 = 3$$

$$4 + 0 = 4$$

Answer: 7 x 62 = 434

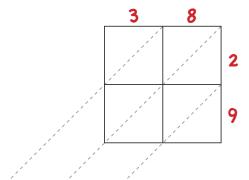


### **Lattice Multiplication**

2 Digits x 2 Digits

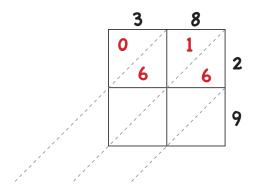
Write one number accross the top of the grid, and the other number along the right side.

We are mulitiplying **38 x 29** 



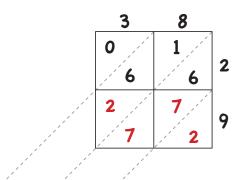
Multiply each single digit on the top by each single digit on the right side.

Write answer in the square. Each triangle in the square gets it's own digit. If the answer is a single digit, put 0 in the first triangle.



Continue multiplying each single digit on the right side by the single digits on the top.

$$3 \times 9 = 27$$
  
 $8 \times 9 = 72$ 



Starting on the right, add numbers diagonally and write sum next to dotted line. You might have to carry two-digit sums to the next place.

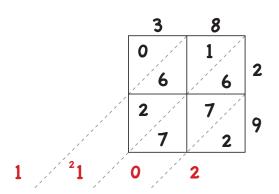
Sums from right to left:

2 (The bottom right triangle never changes.)

$$6 + 7 + 7 = 20$$
 (Write 0, carry the 2)

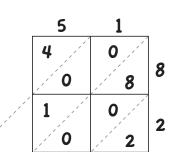
1 + 6 + 2 (+ 2, the carried number) = 11

Answer:  $38 \times 29 = 1102$ 



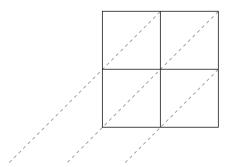
### Lattice Multiplication - Double Digit





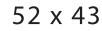
Answer 4182

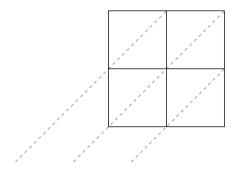
42 x 25



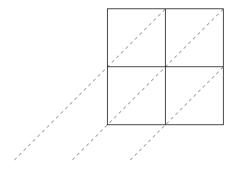
Answer \_\_\_\_\_

65 x 43





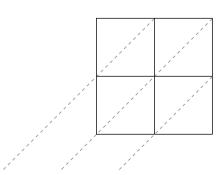
Answer \_\_\_\_\_



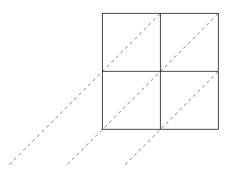
Answer \_\_\_\_\_

31 x 57





Answer \_\_\_\_\_



Answer \_\_\_\_\_

## **Multiplication Word Problems**





1. Matt eats 3 meals per day. With each meal he likes to eat 15 green grapes. How many grapes will Matt eat during 1 day?

2. Anna wants to eat 3 tacos at each of the 3 taco stands in her neighborhood. She wants to do this 2 days in a row. How many tacos will Anna eat in the next 2 days?

3. Timmy puts 5 slices of cheese on his lunch sandwich. Timmy eats this sandwich every day for lunch. How many slices of cheese will Timmy eat on his sandwich in total over 14 days?

4. Ruby smears 1 spoonful of peanut butter onto 2 crackers to make a peanut butter sandwich. Her 3 friends each want 5 peanut butter sandwiches. How many crackers must Ruby use?

5. Alex uses 22 pepperoni pieces on his homemade pizza. A friend requested a special pizza with a double serving of pepperoni. How many pieces of pepperoni should Alex use on the special pizza?

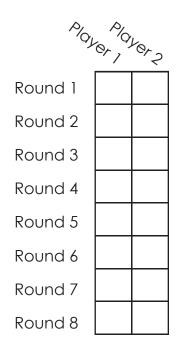


#### Multiplication | Difficulty: ★★☆

Find a friend and practice your multiplication skills. Find two coins or game pieces and place them on the square labeled **START**. Choose one of the problems to solve and move your game piece clockwise around the board to that problem's answer.

Keep track of the number of corners you go around on each move. For each one, give yourself a point. The player with the most points at the end is the winner.

Keep score with the table below.



**Total** 

+1 Point	456	2,107	140	169	+1 Point
840	25 x 14	16 x 13	42 × 20	13 x 13	850
1,820	50 x 17	45 × 39	14 x 10	18 x 12	208
1,376	30 x 23	65 x 28	16 x 16	78 x 59	216
256	24 <u>x 19</u>	43 × 32	31 <u>x 27</u>	49 × 43	350
+1 Point	837	1,755	4,602	690	+1 Point

# **Multiplication Table**

Robert the Multiplication Robot has lost a few of his screws! Help him complete the **multiplication table** by filling in the missing numbers.

X	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0												
1		1											
2			4										
3										27			36
4				12									
5								35				55	
6							36		48				
7	0				28								
8						40							
9													
10													
11													
12													144

#### **Answer Sheets**

#### **Double Dose! Two Digit Multiplication for 3rd Grade**

Step by Step: Two-Digit Multiplication
Two-Digit Multiplication
2-Minute Multiplication
Two-Digit by One-Digit Multiplication
Multiplication Regrouping
Multiplication with Regrouping
Lattice Method For Multiplication
Multiplication Table 1-12

## Two-Digit Multiplication

Multiplying a 2-digit number by a 1-digit number may seem difficult at first. However, if you arrange the numbers in columns, you will find how easy these problems really are.

**EXAMPLE**:  $20 \times 2 = ?$ 



$$\begin{array}{c|c}
\text{STEP 1} \\
\hline
20 \\
x & 2
\end{array}$$

Arrange factors in columns.

S	ΓΕ	P	2
	10	1	
	2	0	
Χ		2	
		0	•

Multiply the 1s column first.

$$\begin{array}{c|c}
 & \text{STEP 3} \\
 \hline
 & 20 \\
 \hline
 & x & 2 \\
 \hline
 & 40 \\
 \end{array}$$

Multiply the 10s column.

For each problem below, rewrite each problem so that the numbers are in columns. Proceed to multiply the problem and solve. Be sure to show all of your work.

1. <b>43 x 2</b>	2. <b>32 x 3</b>	3. <b>11 x 4</b>
10 1 43 x 2 86	10 1 32 x 3 96	10 1 11 x 4 44
4. <b>50</b> x <b>1</b>	5. <b>14 x 2</b> - 10 1  - 14  X 2  - 28	6. <b>62 x 4</b>
7. <b>61</b> x <b>7</b>	8. 13 x 2	9. <b>15</b> x 4  -   10   1  -   15  -   x   4  -   60

### Two-Digit Multiplication Practice



For each problem below, multiply and regroup if necessary. Be sure to show all of your work.

14 10 15 47 23  
2) 
$$\times 5$$
 6)  $\times 6$  10)  $\times 4$  14)  $\times 3$  18)  $\times 4$  70 60 141 92



Score:

Date:

See how many of the following multiplication problems you can solve in 2 minutes.

4 × 4

× 2

5 × 3

6 × 6

4 × 8 18 × 2 0 x 9 x 6

× 5

7 × 6

× 3

10 × 7 1 2 × 5

x 2

x 8

x 1

× 0

2 0 × 4 9 × 9 1 3 × 4

x 4

4 × 5

× 7

20 × 2

x | \_\_\_\_\_ × 5

× 3

6 x 4 1 7 × 3 7 × 7

8 × 3 1 9 × 4

× 5

× 6

20 × 3

1 I × 5 × 8

1 3 × 2 19 × 1

# **Minty Multiplication**

### Find the product



$$41 \times 5 \over 205$$

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

$$\begin{array}{c}
28 \\
\times 0 \\
\hline
0
\end{array}$$

$$70 \times 9 \over 630$$

$$\begin{array}{r} 35 \\ \times 1 \\ \hline 35 \end{array}$$

### **Multiplication: Regrouping**



First, multiply the 5 by the 2 to get 10. The number 0 is left below and the 1 is regrouped in the tens place.

$$\frac{12}{25}$$

Next, multiply the 5 by the 1 in the tens place to get 5. Add the 1 you regrouped to get 6.

$$\begin{array}{c|c}
 & 12 \\
 \hline
 & 5 \\
\hline
 & 60
\end{array}$$

Finally, since the number is under 10 and does not need to be regrouped, write the 6 below in the tens place.

#### Multiply the problems below.





### Multiplication: Regrouping

x 555 x 5 First, multiply the 5 by the 5 to get 25. The number 5 is left below and the 2 is regrouped above in the tens place.

 $\frac{2^{2}2}{55}$ 

Next, multiply the 5 ones by the 5 in the tens place to get 25. Add the 2 you regrouped to get 27. The 7 is left below in the tens place and the 2 is regrouped above in the hundreds place.

 $\begin{array}{c|c}
 & 2 & 2 \\
\hline
 & 55 \\
 & & 5 \\
\hline
 & 275
\end{array}$ 

Finally, add the number 2 in the hundreds place above to the hundreds place below.

#### Multiply the problems below.

50 × 8 400 65 × 3 195

65 × 4 260

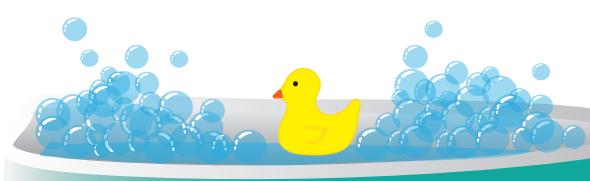
88 × 2 176 20 × 6 120 4 I × 5 205

× 8 120

62 × 2 124 33 × 5 165 × 8 160 × 6 264 36 × 4 | 144

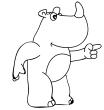
70 × 5 350 17 × 7 | 119

90 × 2 180 × 9 108 84 × 3 252



## Multiplication with Regrouping

Multiplication with regrouping is the easiest way to multiply by large numbers. Follow the steps below to learn how.



- -First, multiply the numbers in the ones place.
- -Write your result in the ones place and carry any number in the tens place forward.
- -Next, multiply the number in the tens place by the bottom number in the ones place.
- -Add the extra number you carried over to your result and write this number in the tens place.

#### **Example:**

Multiply the ones place. 
$$\frac{2}{1}$$
 Carry the 2 to the tens place.  $\frac{2}{1}$  Multiply the tens place by the bottom ones place.  $\frac{2}{1}$  Add the extra 2 and write your result.  $\frac{2}{1}$   $\frac{3}{1}$   $\frac{3}{1}$   $\frac{3}{1}$   $\frac{3}{1}$   $\frac{2}{1}$   $\frac{3}{1}$   $\frac{2}{1}$   $\frac{3}{1}$   $\frac{2}{1}$   $\frac{3}{1}$   $\frac{3}{1}$   $\frac{2}{1}$   $\frac{3}{1}$   $\frac{3}{1}$   $\frac{3}{1}$   $\frac{3}{1}$   $\frac{3}{1}$ 

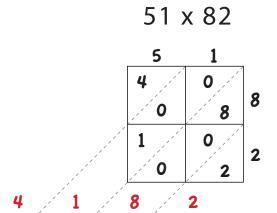
$$1 \times 3 = 3$$

For each problem below, follow the steps used in the example to find your solution. Be sure to show all of your work.

16 38 29 24 28 17  
2) 
$$\times 4$$
 6)  $\times 2$  10)  $\times 3$  14)  $\times 4$  18)  $\times 4$  22)  $\times 3$  51

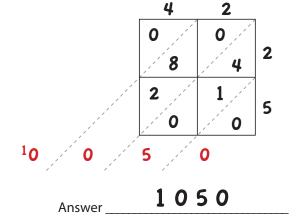
16 35 18 27 13 12  
3) 
$$\times 2$$
 7)  $\times 2$  11)  $\times 4$  15)  $\times 2$  19)  $\times 7$  23)  $\times 7$  32 70 72 54 91 84

### **Lattice Multiplication -** Double Digit

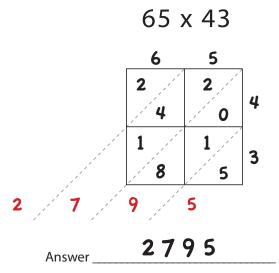


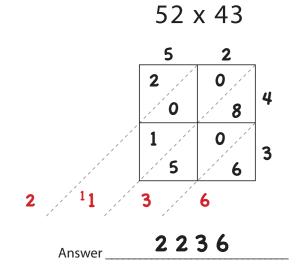
Answer

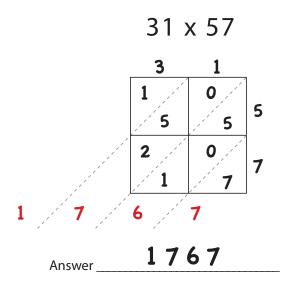
4182

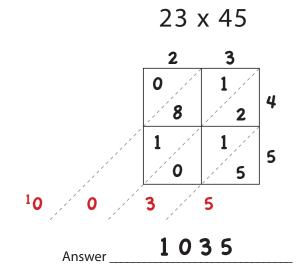


42 x 25









## Multiplication Table

Robert the Multiplication Robot has lost a few of his screws! Help him complete the multiplication table by filling in the missing numbers.

X	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144