

Multiplying by 2 Digits

Split both numbers by place value. Multiply the parts. Then add.

Fill in the area model. Add each row. Then add the two rows.

Example

346×27

	300	40	6	
20	6,000	800	120	= 6,920
7	2,100	280	42	= 2,422
	6,920	+	2,422	= 9,342

1. 258×34

	200	50	8	
30				=
4				=
		+		=

2. 473×16

	400	70	3	
10				=
6				=
		+		=

3. 619×42

				=
				=
		+		=

4. 735×58

				=
				=
		+		=

5. 862×23

				=
				=
		+		=

Multiplying by 2 Digits

Multiply each place by each place. Then add the partial products.

Write the six partial products. Then add them.

Example

			5	2	7	
x				3	4	
				2	8	(4 × 7)
				8	0	(4 × 20)
		2	0	0	0	(4 × 500)
			2	1	0	(30 × 7)
			6	0	0	(30 × 20)
+	1	5	0	0	0	(30 × 500)
	1	7	9	1	8	

1.

			4	6	3	
x				2	8	
						(8 × 3)
						(8 × 60)
						(8 × 400)
						(20 × 3)
						(20 × 60)
						(20 × 400)
+						

2.

			3	8	4	
x				5	6	
						(6 × 4)
						(6 × 80)
						(6 × 300)
						(50 × 4)
						(50 × 80)
						(50 × 300)
+						

Four digits by two digits: write the eight partial products. Then add.

3.

			2	4	3	5	
x					2	6	
							(6 × 5)
							(6 × 30)
							(6 × 400)
							(6 × 2,000)
							(20 × 5)
							(20 × 30)
							(20 × 400)
							(20 × 2,000)
+							

4.

			3	1	7	2	
x					4	5	
							(5 × 2)
							(5 × 70)
							(5 × 100)
							(5 × 3,000)
							(40 × 2)
							(40 × 70)
							(40 × 100)
							(40 × 3,000)
+							

Multiply by the ones, then the tens (write a 0 first). Add the rows.

Multiply. Write regrouped digits in the small boxes above.

$$1,524 + 7,620 = 9,144$$

			x70		
			x6		
			5	4	9
x				7	6
+					0

Multiplying by 2 Digits

Larger numbers and zeros. Keep every digit in its place.

Multiply. Some top numbers have zeros.

Example

$$\begin{array}{r}
 \begin{array}{cc} \times 20 & 1 \\ \times 6 & 4 \end{array} \\
 \begin{array}{r} 4083 \\ \times 26 \\ \hline 24498 \\ + 81660 \\ \hline 106158 \end{array}
 \end{array}$$

1.

$$\begin{array}{r}
 \begin{array}{cc} \times 60 \\ \times 4 \end{array} \\
 \begin{array}{r} 507 \\ \times 64 \\ \hline \\ + \\ \hline \end{array}
 \end{array}$$

2.

$$\begin{array}{r}
 \begin{array}{cc} \times 40 \\ \times 7 \end{array} \\
 \begin{array}{r} 2316 \\ \times 47 \\ \hline \\ + \\ \hline \end{array}
 \end{array}$$

3.

$$\begin{array}{r}
 \begin{array}{cc} \times 30 \\ \times 8 \end{array} \\
 \begin{array}{r} 6040 \\ \times 38 \\ \hline \\ + \\ \hline \end{array}
 \end{array}$$

4.

$$\begin{array}{r}
 \begin{array}{cc} \times 20 \\ \times 9 \end{array} \\
 \begin{array}{r} 1758 \\ \times 29 \\ \hline \\ + \\ \hline \end{array}
 \end{array}$$

5.

$$\begin{array}{r}
 \begin{array}{cc} \times 70 \\ \times 2 \end{array} \\
 \begin{array}{r} 3905 \\ \times 72 \\ \hline \\ + \\ \hline \end{array}
 \end{array}$$

Multiply by a 3-digit number: three rows, then add.

Example

$$\begin{array}{r}
 \begin{array}{ccc} \times 100 & & \\ \times 40 & 2 & 1 \\ \times 5 & 3 & 1 \end{array} \\
 \begin{array}{r} 263 \\ \times 145 \\ \hline 1315 \\ 10520 \\ + 26300 \\ \hline 38135 \end{array}
 \end{array}$$

6.

$$\begin{array}{r}
 \begin{array}{ccc} \times 200 & & \\ \times 10 & & \\ \times 6 & & \end{array} \\
 \begin{array}{r} 438 \\ \times 216 \\ \hline \\ + \\ \hline \end{array}
 \end{array}$$

7.

$$\begin{array}{r}
 \begin{array}{ccc} \times 300 & & \\ \times 60 & & \\ \times 2 & & \end{array} \\
 \begin{array}{r} 705 \\ \times 362 \\ \hline \\ + \\ \hline \end{array}
 \end{array}$$

Estimate first to check your answers. Then solve the stories.

Example

Round: 500 × 30

= 15,000

		×30		2	2
		×2		1	1
		4	8	7	
×			3	2	
		9	7	4	
+	1	4	6	1	0
	1	5	5	8	4

1. **652 × 48**

Round: ×

=

		×40			
		×8			
		6	5	2	
×			4	8	
+					

2. **3,145 × 27**

Round: ×

=

		×20			
		×7			
		3	1	4	5
×			2	7	
+					

3. A stadium has **148** rows of seats. Each row has **36** seats. How many seats are in the stadium?

_____ seats

4. A truck carries **1,275** pounds of apples on each trip. How many pounds does it carry in **24** trips?

_____ pounds

5. A school buys **32** boxes of **144** pencils. It gives out **3,950** of the pencils. How many pencils are left?

_____ pencils

6. Each week Mr. Lee drives **345** miles for work and **58** miles for fun. How many miles is that in **52** weeks?

_____ miles

Multiplying by 2 Digits

Split both numbers by place value. Multiply the parts. Then add.

Fill in the area model. Add each row. Then add the two rows.

Example

346×27

	300	40	6	
20	6,000	800	120	= 6,920
7	2,100	280	42	= 2,422

$6,920 + 2,422 = 9,342$

$1. 258 \times 34$

	200	50	8	
30				=
4				=

$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

$2. 473 \times 16$

	400	70	3	
10				=
6				=

$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

$3. 619 \times 42$

				=
				=

$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

$4. 735 \times 58$

				=
				=

$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

$5. 862 \times 23$

				=
				=

$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Multiplying by 2 Digits

Multiply each place by each place. Then add the partial products.

Write the six partial products. Then add them.

Example

			5	2	7	
x				3	4	
			2	8		(4 × 7)
			8	0		(4 × 20)
	2	0	0	0		(4 × 500)
		2	1	0		(30 × 7)
		6	0	0		(30 × 20)
+	1	5	0	0	0	(30 × 500)
	1	7	9	1	8	

1.

			4	6	3	
x				2	8	
						(8 × 3)
						(8 × 60)
						(8 × 400)
						(20 × 3)
						(20 × 60)
						(20 × 400)
+						

2.

			3	8	4	
x				5	6	
						(6 × 4)
						(6 × 80)
						(6 × 300)
						(50 × 4)
						(50 × 80)
						(50 × 300)
+						

Four digits by two digits: write the eight partial products. Then add.

3.

			2	4	3	5	
x					2	6	
							(6 × 5)
							(6 × 30)
							(6 × 400)
							(6 × 2,000)
							(20 × 5)
							(20 × 30)
							(20 × 400)
							(20 × 2,000)
+							

4.

			3	1	7	2	
x					4	5	
							(5 × 2)
							(5 × 70)
							(5 × 100)
							(5 × 3,000)
							(40 × 2)
							(40 × 70)
							(40 × 100)
							(40 × 3,000)
+							

Multiply by the ones, then the tens (write a 0 first). Add the rows.

Example

Regrouped digits go here.

$$254 \times 6 = 1,524$$

$$254 \times 30 = 7,620$$

$$1,524 + 7,620 = 9,144$$

			x70		
			x6		
		5	4	9	
x			7	6	
+				0	

Larger numbers and zeros. Keep every digit in its place.

Example

$$\begin{array}{r}
 \begin{array}{cc}
 \times 20 & \begin{array}{|c|c|c|} \hline & 1 & \\ \hline \end{array} \\
 \times 6 & \begin{array}{|c|c|c|} \hline & 4 & 1 \\ \hline \end{array}
 \end{array} \\
 \begin{array}{|c|c|c|c|c|c|} \hline & & 4 & 0 & 8 & 3 \\ \hline \times & & & & 2 & 6 \\ \hline
 \end{array} \\
 \hline
 \begin{array}{|c|c|c|c|c|c|} \hline & 2 & 4 & 4 & 9 & 8 \\ \hline + & 8 & 1 & 6 & 6 & 0 \\ \hline
 \end{array} \\
 \hline
 \begin{array}{|c|c|c|c|c|c|} \hline 1 & 0 & 6 & 1 & 5 & 8 \\ \hline
 \end{array}
 \end{array}$$

1.

			5	0	7
x				6	4
+					

[illegible][illegible]

4.

		x20			
		x9			
		1758			
x				29	
+					

5.

		x70			
		x2			
		3	9	0	5
x				7	2
+					

Example

x100					
x40	2	1			
x5	3	1			
	2	6	3		
x	1	4	5		
		1	3	1	5
	1	0	5	2	0
+	2	6	3	0	0
	3	8	1	3	5

6.

			x200			
			x10			
			x6			
			4	3	8	
x			2	1	6	
+						

7.

				x300			
				x60			
				x2			
				7	0	5	
x				3	6	2	
+							

Estimate first to check your answers. Then solve the stories.

Example

487 × 32

Round: 500 × 30

= 15,000

		x30	2	2		
		x2	1	1		
			4	8	7	
×				3	2	
			9	7	4	
+	1	4	6	1	0	
	1	5	5	8	4	

1. 652 × 48

Round: _____ × _____

= _____

			x40			
			x8			
			6	5	2	
×				4	8	
+						

2. 3,145 × 27

Round: _____ × _____

= _____

				x20		
				x7		
			3	1	4	5
×				2	7	
+						

3. A stadium has **148** rows of seats. Each row has **36** seats. How many seats are in the stadium?

_____ seats

4. A truck carries **1,275** pounds of apples on each trip. How many pounds does it carry in **24** trips?

_____ pounds

5. A school buys **32** boxes of **144** pencils. It gives out **3,950** of the pencils. How many pencils are left?

_____ pencils

6. Each week Mr. Lee drives **345** miles for work and **58** miles for fun. How many miles is that in **52** weeks?

_____ miles

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Split both numbers by place value. Multiply the parts. Then add.

Fill in the area model. Add each row. Then add the two rows.

Example

346×27

	300	40	6	
20	6,000	800	120	= 6,920
7	2,100	280	42	= 2,422
	6,920 + 2,422 = 9,342			

$1. 258 \times 34$

	200	50	8	
30	6,000	1,500	240	= 7,740
4	800	200	32	= 1,032
	7,740 + 1,032 = 8,772			

$2. 473 \times 16$

	400	70	3	
10	4,000	700	30	= 4,730
6	2,400	420	18	= 2,838
	4,730 + 2,838 = 7,568			

$3. 619 \times 42$

	600	10	9	
40	24,000	400	360	= 24,760
2	1,200	20	18	= 1,238
	24,760 + 1,238 = 25,998			

$4. 735 \times 58$

	700	30	5	
50	35,000	1,500	250	= 36,750
8	5,600	240	40	= 5,880
	36,750 + 5,880 = 42,630			

$5. 862 \times 23$

	800	60	2	
20	16,000	1,200	40	= 17,240
3	2,400	180	6	= 2,586
	17,240 + 2,586 = 19,826			

Multiplying by 2 Digits

Multiply each place by each place. Then add the partial products.

Write the six partial products. Then add them.

Example

			5	2	7
x				3	4
			2	8	(4 × 7)
			8	0	(4 × 20)
		2	0	0	0 (4 × 500)
		2	1	0	(30 × 7)
		6	0	0	(30 × 20)
+	1	5	0	0	0 (30 × 500)
	1	7	9	1	8

1.

			4	6	3
x				2	8
			2	4	(8 × 3)
		4	8	0	(8 × 60)
	3	2	0	0	(8 × 400)
			6	0	(20 × 3)
	1	2	0	0	(20 × 60)
+	8	0	0	0	(20 × 400)
	1	2	9	6	4

2.

			3	8	4
x				5	6
			2	4	(6 × 4)
		4	8	0	(6 × 80)
	1	8	0	0	(6 × 300)
		2	0	0	(50 × 4)
	4	0	0	0	(50 × 80)
+	1	5	0	0	0 (50 × 300)
	2	1	5	0	4

Four digits by two digits: write the eight partial products. Then add.

3.

			2	4	3	5
x					2	6
				3	0	(6 × 5)
			1	8	0	(6 × 30)
		2	4	0	0	(6 × 400)
	1	2	0	0	0	(6 × 2,000)
			1	0	0	(20 × 5)
			6	0	0	(20 × 30)
		8	0	0	0	(20 × 400)
+		4	0	0	0	0 (20 × 2,000)
	6	3	3	1	0	

4.

			3	1	7	2
x					4	5
				1	0	(5 × 2)
			3	5	0	(5 × 70)
			5	0	0	(5 × 100)
	1	5	0	0	0	(5 × 3,000)
				8	0	(40 × 2)
		2	8	0	0	(40 × 70)
		4	0	0	0	(40 × 100)
+	1	2	0	0	0	0 (40 × 3,000)
	1	4	2	7	4	0

Multiply. Write regrouped digits in the small boxes above.

Multiplying by 2 Digits

Larger numbers and zeros. Keep every digit in its place.

Multiply. Some top numbers have zeros.

Example

$$\begin{array}{r}
 \begin{array}{cc} \times 20 & 1 \\ \times 6 & 4 \end{array} \\
 \begin{array}{r}
 4083 \\
 \times 26 \\
 \hline
 24498 \\
 + 81660 \\
 \hline
 106158
 \end{array}
 \end{array}$$

1.

$$\begin{array}{r}
 \begin{array}{cc} \times 60 & 4 \\ \times 4 & 2 \end{array} \\
 \begin{array}{r}
 507 \\
 \times 64 \\
 \hline
 2028 \\
 + 30420 \\
 \hline
 32448
 \end{array}
 \end{array}$$

2.

$$\begin{array}{r}
 \begin{array}{cc} \times 40 & 1 & 2 \\ \times 7 & 2 & 1 \end{array} \\
 \begin{array}{r}
 2316 \\
 \times 47 \\
 \hline
 16212 \\
 + 92640 \\
 \hline
 108852
 \end{array}
 \end{array}$$

3.

$$\begin{array}{r}
 \begin{array}{cc} \times 30 & 1 \\ \times 8 & 3 \end{array} \\
 \begin{array}{r}
 6040 \\
 \times 38 \\
 \hline
 48320 \\
 + 181200 \\
 \hline
 229520
 \end{array}
 \end{array}$$

4.

$$\begin{array}{r}
 \begin{array}{cc} \times 20 & 1 & 1 & 1 \\ \times 9 & 6 & 5 & 7 \end{array} \\
 \begin{array}{r}
 1758 \\
 \times 29 \\
 \hline
 15822 \\
 + 35160 \\
 \hline
 50982
 \end{array}
 \end{array}$$

5.

$$\begin{array}{r}
 \begin{array}{cc} \times 70 & 6 & 3 \\ \times 2 & 1 & 1 \end{array} \\
 \begin{array}{r}
 3905 \\
 \times 72 \\
 \hline
 7810 \\
 + 273350 \\
 \hline
 281160
 \end{array}
 \end{array}$$

Multiply by a 3-digit number: three rows, then add.

Example

$$\begin{array}{r}
 \begin{array}{cc} \times 100 & 2 & 1 \\ \times 40 & 3 & 1 \\ \times 5 & 3 & 1 \end{array} \\
 \begin{array}{r}
 263 \\
 \times 145 \\
 \hline
 1315 \\
 10520 \\
 + 26300 \\
 \hline
 38135
 \end{array}
 \end{array}$$

6.

$$\begin{array}{r}
 \begin{array}{cc} \times 200 & 1 \\ \times 10 & 2 & 4 \\ \times 6 & 2 & 4 \end{array} \\
 \begin{array}{r}
 438 \\
 \times 216 \\
 \hline
 2628 \\
 4380 \\
 + 87600 \\
 \hline
 94608
 \end{array}
 \end{array}$$

7.

$$\begin{array}{r}
 \begin{array}{cc} \times 300 & 1 \\ \times 60 & 3 \\ \times 2 & 1 \end{array} \\
 \begin{array}{r}
 705 \\
 \times 362 \\
 \hline
 1410 \\
 42300 \\
 + 211500 \\
 \hline
 255210
 \end{array}
 \end{array}$$

