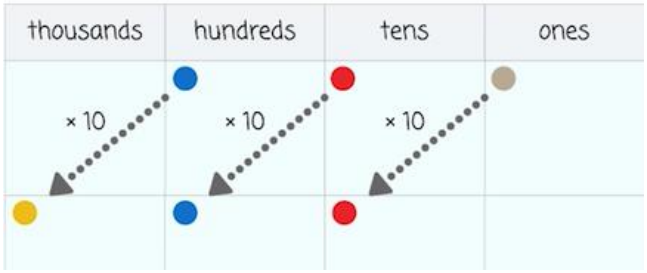
5th Grade Mission 2 Notes

ones × tens	=	tens
tens × tens	=	hundreds
hundreds × tens	=	thousands



$60 \times 50 = 3000$ Start with the basic math fact. Then multiply the place values.

5 x 6 = 30 tens x tens = hundreds 30 hundreds = 3,000

Rounding Steps

- Find your place and box it tight.
- Look at the number to the right.
- 5 or greater, add one more.
- Stay the same for 0 to 4.
- Numbers in front, stay the same.
- Numbers behind, zero's their name.

Add- find the **sum**

Subtract- find the **difference**

Multiply- find the **product**

Divide- find the **quotient**

Parenthesis represents the units.

60 – 51	60 – 51	60 – 51	60 – 51	60 – 51	60 – 51

Factors stay the same, just reversed

$6 \times (60 - 51)$
$(60 - 51) \times 6$

Commutative property

8 times the difference between 43 and 13

43 – 13	43 – 13	43 – 13	43 – 13	43 – 13	43 – 13	43 – 13	43 – 13

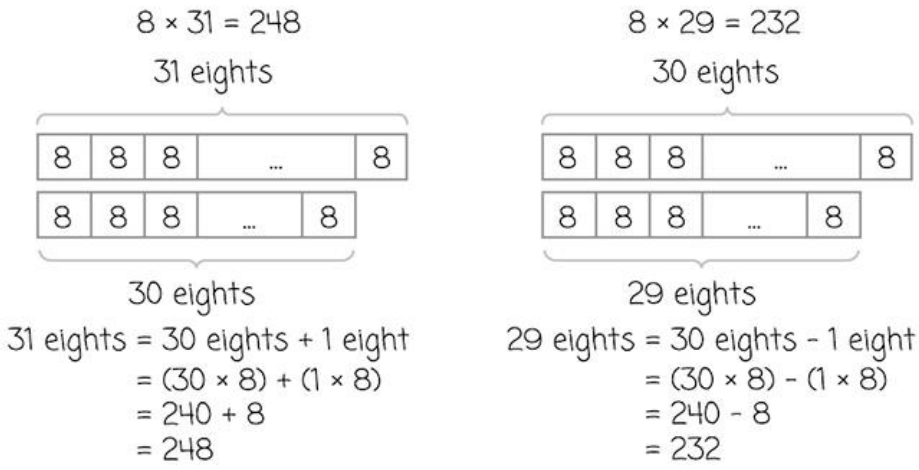
8 × (43 – 13)

4 times the sum of 16 and 9

16 + 9	16 + 9	16 + 9	16 + 9

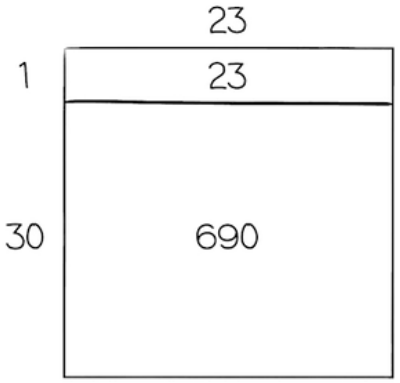
4 × (16 + 9)

Mental Math Strategy



Area Model Multiplication and Algorithm

23 × 31 = 713



$$\begin{array}{r} 23 \\ \times\ 31 \\ \hline 23 \\ +\ 690 \\ \hline 713 \end{array}$$

64 × 73 = 4672

	70	3		
4	280	+ 12	=	292
60	4,200	+ 180	=	4,380

$$\begin{array}{r} 73 \\ \times\ 64 \\ \hline 292 \\ +\ 4,380 \\ \hline 4,672 \end{array}$$

	500	10	9
6	3,000	60	54
20	10,000	200	180
300	150,000	3,000	2,700

3,114 + 10,380 + 155,700

$$\begin{array}{r} 519 \\ \times\ 326 \\ \hline 3114 \\ 10380 \\ +\ 155700 \\ \hline 169194 \end{array}$$

Reasonable- does it make sense

$7.38 \times 41 = 302.58$

738 hundredths

× 41

738

+ 29520

30258 hundredths

2.4= 24 tenths

43 × 24 tenths = 1,032 tenths

43 × 2.4 = 103.2

Let's look at how we set up and solve multiplication of decimals by whole numbers!

14 x 0.28

Step 1: Change numbers to unit forms. 14 ones x 28 hundredths

Step2: Set up standard algorithm vertically putting the longest number on top.

28 hundredths

x 14 ones

Step 3: Find the product.

28 hundredths

x 14 ones

112

+ 28

392

Step4: Put decimal back in answer based on your unit.

hundredths - 2 digits behind decimal point

tenths- 1 digit behind decimal point

392 hundredths = 3.92

Conversions

1 week = 7 days

1 hour = 60 minutes

1 kilogram = 1,000 grams

1 pound = 16 ounces

1 cm = 0.01 m

2 cups = 1 pint

1 day = $\frac{1}{7}$ week

1 quart = $\frac{1}{4}$ gallon

$$28 \text{ days} = 28 \times 1 \text{ day}$$
$$= 28 \times \left(\frac{1}{7} \text{ week}\right)$$
$$= \frac{28}{7} \text{ weeks}$$
$$= 4 \text{ weeks}$$

28 days equals 4 weeks.

Lbs	Oz
1	16
2	32
3	48
4	64

$$12{,}000 \div 300$$
$$= 12{,}000 \div 100 \div 3$$
$$= 120 \div 3$$

$120 \div 3 = 40$

ten thousands	thousands	hundreds	tens	ones	tenths	hundredths
1	2	0	0	0		
		1	2	0	0	0

Estimation Division

$$402 \div 19 \approx 20$$
$$\approx 400 \div 20$$
$$= 400 \div 10 \div 2$$
$$= 40 \div 2$$
$$= 20$$

$572 \div 90$

Whole divisor

$$\begin{array}{r} 6 \text{ R } 32 \\ 90\overline{)572} \\ -540 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 82 \text{ R } 25 \\ 52\overline{)4{,}289} \\ -416\downarrow \\ \hline 129 \\ -104 \\ \hline 25 \end{array}$$

When you **divide**, move to the **right** on the place value chart. The number of zeros tells you the number of places you will move. (10- 1 place, 100 – 2 places, 1000- 3 places)

thousands	hundreds	tens	ones	tenths	hundredths	thousandths
	7	4	5			
			0	7	4	5

745 ÷ 1,000

When you **multiply**, move to the **left** on the place value chart. The number of zeros tells you the number of places you will move. (10- 1 place, 100 – 2 places, 1000- 3 places)

thousands	hundreds	tens	ones	tenths	hundredths	thousandths
			2	4	3	
		2	4	3		

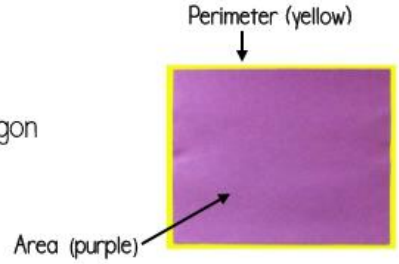
2.43 x 10

$$54 \div 90 = 0.6$$

$$0.54 \div 90 = 0.006$$

$$54 \div 900 = 0.06$$

$$
\begin{array}{r}
28.25 \\
32 \overline{)\,904.00} \\
-\,64\downarrow \\
\hline
264 \\
-\,256\downarrow \\
\hline
8.0 \\
-\,6.4\downarrow \\
\hline
1.60 \\
-\,1.60 \\
\hline
0
\end{array}
$$



Perimeter- the outside edges (boundaries) of a polygon (shape).

Perimeter= length + width + length + width

Area- the space a flat shape takes up

Area (squared units) = length x width