

A Story of Units[®]

Eureka Math[™]

Grade 4, Module 3

Student File_A

*Contains copy-ready classwork and homework
as well as templates (including cut outs)*

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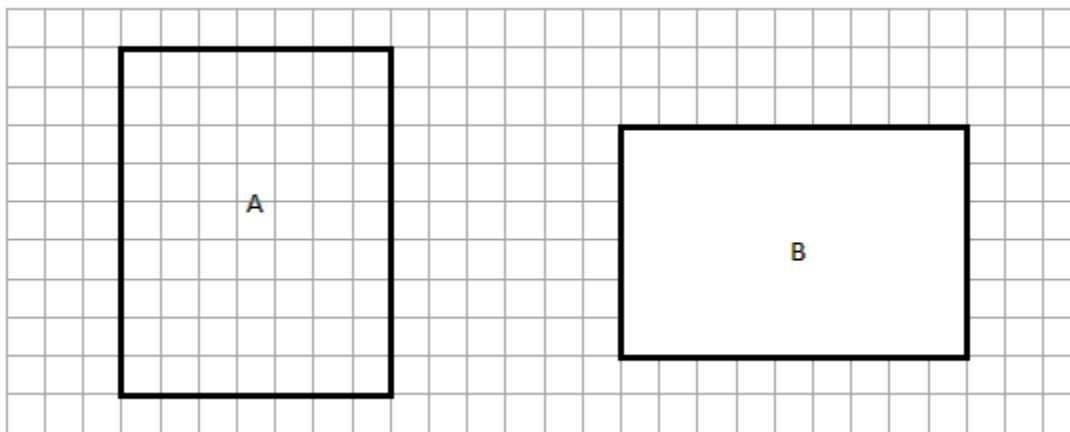
This book may be purchased from the publisher at eureka-math.org

10 9 8 7 6 5 4 3 2 1

Name _____

Date _____

1. Determine the perimeter and area of rectangles A and B.



a. A = _____

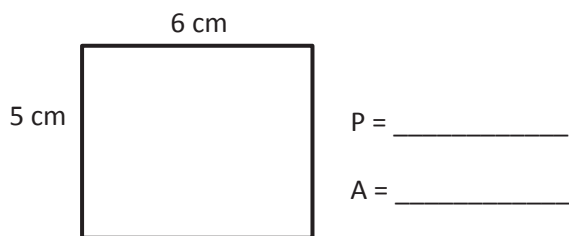
A = _____

b. P = _____

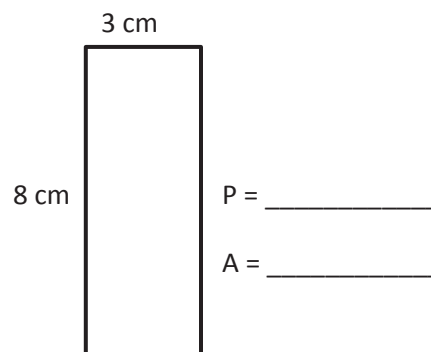
P = _____

2. Determine the perimeter and area of each rectangle.

a.

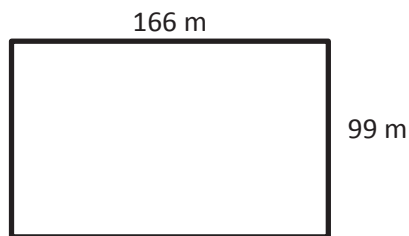


b.



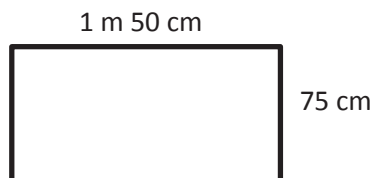
3. Determine the perimeter of each rectangle.

a.



P = _____

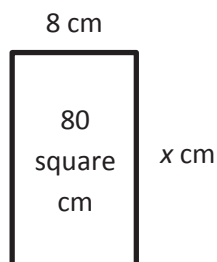
b.



P = _____

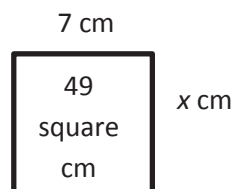
4. Given the rectangle's area, find the unknown side length.

a.



x = _____

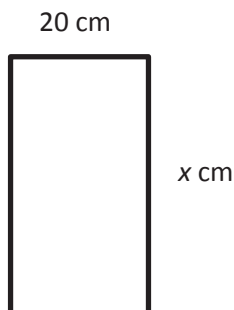
b.



x = _____

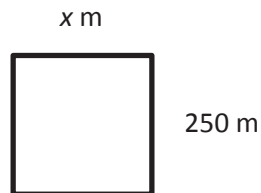
5. Given the rectangle's perimeter, find the unknown side length.

a. $P = 120$ cm



$x =$ _____

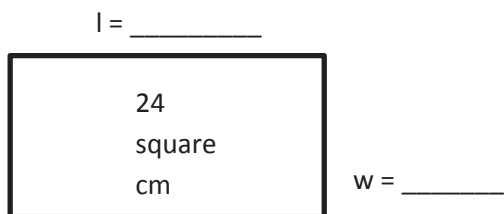
b. $P = 1,000$ m



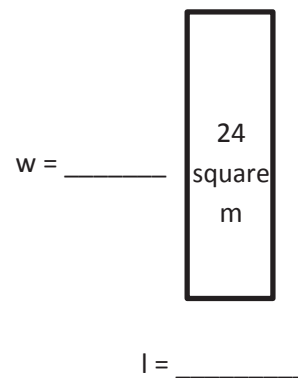
$x =$ _____

6. Each of the following rectangles has whole number side lengths. Given the area and perimeter, find the length and width.

a. $P = 20$ cm



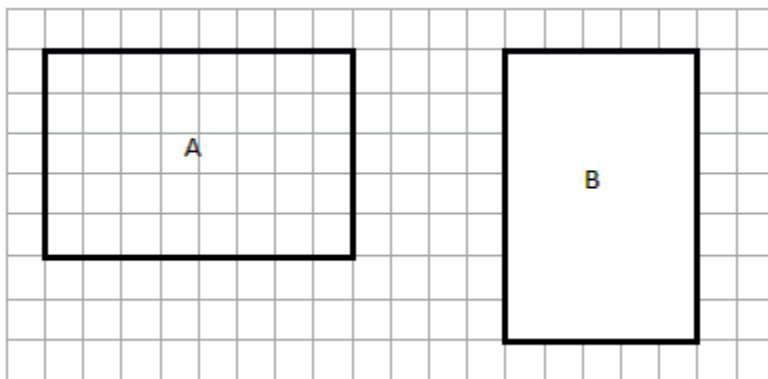
b. $P = 28$ m



Name _____

Date _____

1. Determine the perimeter and area of rectangles A and B.



a. A = _____

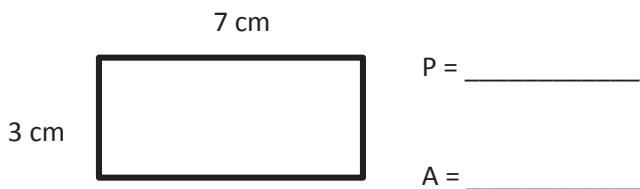
A = _____

b. P = _____

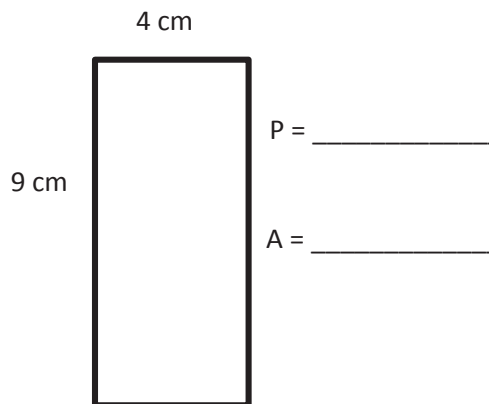
P = _____

2. Determine the perimeter and area of each rectangle.

a.

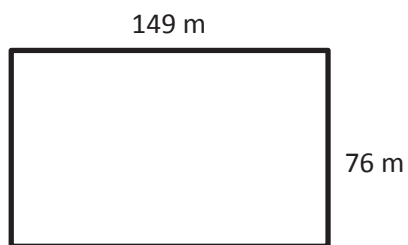


b.



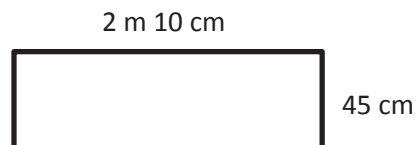
3. Determine the perimeter of each rectangle.

a.



P = _____

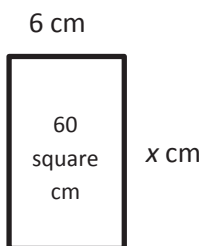
b.



P = _____

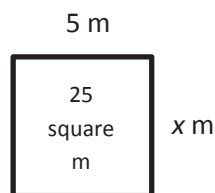
4. Given the rectangle's area, find the unknown side length.

a.



x = _____

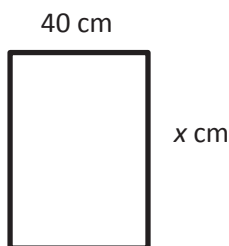
b.



x = _____

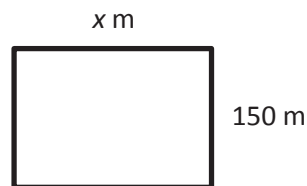
5. Given the rectangle's perimeter, find the unknown side length.

a. $P = 180$ cm



$x =$ _____

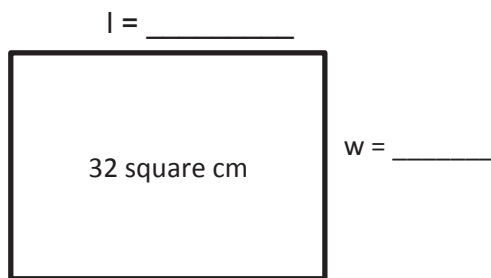
b. $P = 1,000$ m



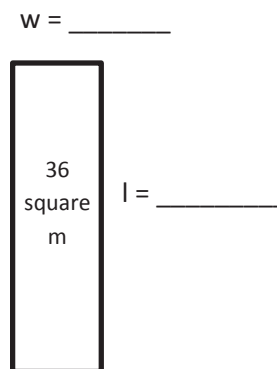
$x =$ _____

6. Each of the following rectangles has whole number side lengths. Given the area and perimeter, find the length and width.

a. $A = 32$ square cm
 $P = 24$ cm



b. $A = 36$ square m
 $P = 30$ m



Name _____

Date _____

1. A rectangular porch is 4 feet wide. It is 3 times as long as it is wide.

a. Label the diagram with the dimensions of the porch.



b. Find the perimeter of the porch.

2. A narrow rectangular banner is 5 inches wide. It is 6 times as long as it is wide.

a. Draw a diagram of the banner, and label its dimensions.

b. Find the perimeter and area of the banner.

4. The area of Betsy's rectangular sandbox is 20 square feet. The longer side measures 5 feet. The sandbox at the park is twice as long and twice as wide as Betsy's.
- a. Draw and label a diagram of Betsy's sandbox. What is its perimeter?
- b. Draw and label a diagram of the sandbox at the park. What is its perimeter?
- c. What is the relationship between the two perimeters?
- d. Find the area of the park's sandbox using the formula $A = l \times w$.

- e. The sandbox at the park has an area that is how many times that of Betsy's sandbox?
- f. Compare how the perimeter changed with how the area changed between the two sandboxes. Explain what you notice using words, pictures, or numbers.

Name _____

Date _____

1. A rectangular pool is 7 feet wide. It is 3 times as long as it is wide.

a. Label the diagram with the dimensions of the pool.



b. Find the perimeter of the pool.

2. A poster is 3 inches long. It is 4 times as wide as it is long.

a. Draw a diagram of the poster, and label its dimensions.

b. Find the perimeter and area of the poster.

4. The area of Nathan's bedroom rug is 15 square feet. The longer side measures 5 feet. His living room rug is twice as long and twice as wide as the bedroom rug.
- a. Draw and label a diagram of Nathan's bedroom rug. What is its perimeter?
- b. Draw and label a diagram of Nathan's living room rug. What is its perimeter?
- c. What is the relationship between the two perimeters?
- d. Find the area of the living room rug using the formula $A = l \times w$.

- e. The living room rug has an area that is how many times that of the bedroom rug?
- f. Compare how the perimeter changed with how the area changed between the two rugs. Explain what you notice using words, pictures, or numbers.

3. Jackson's rectangular bedroom has an area of 90 square feet. The area of his bedroom is 9 times that of his rectangular closet. If the closet is 2 feet wide, what is its length?
4. The length of a rectangular deck is 4 times its width. If the deck's perimeter is 30 feet, what is the deck's area?

3. Brinn's rectangular kitchen has an area of 81 square feet. The kitchen is 9 times as many square feet as Brinn's pantry. If the rectangular pantry is 3 feet wide, what is the length of the pantry?
4. The length of Marshall's rectangular poster is 2 times its width. If the perimeter is 24 inches, what is the area of the poster?

Name _____

Date _____

Example:

$5 \times 10 = \underline{50}$

$5 \text{ ones} \times 10 = \underline{5} \text{ tens}$

thousands	hundreds	tens	ones

Draw place value disks and arrows as shown to represent each product.

1. $5 \times 100 = \underline{\hspace{2cm}}$

$5 \times 10 \times 10 = \underline{\hspace{2cm}}$

$5 \text{ ones} \times 100 = \underline{\hspace{2cm}}$

thousands	hundreds	tens	ones

2. $5 \times 1,000 = \underline{\hspace{2cm}}$

$5 \times 10 \times 10 \times 10 = \underline{\hspace{2cm}}$

$5 \text{ ones} \times 1,000 = \underline{\hspace{2cm}}$

thousands	hundreds	tens	ones

3. Fill in the blanks in the following equations.

a. $6 \times 10 = \underline{\hspace{2cm}}$

b. $\underline{\hspace{2cm}} \times 6 = 600$

c. $6,000 = \underline{\hspace{2cm}} \times 1,000$

d. $10 \times 4 = \underline{\hspace{2cm}}$

e. $4 \times \underline{\hspace{2cm}} = 400$

f. $\underline{\hspace{2cm}} \times 4 = 4,000$

g. $1,000 \times 9 = \underline{\hspace{2cm}}$

h. $\underline{\hspace{2cm}} = 10 \times 9$

i. $900 = \underline{\hspace{2cm}} \times 100$

Draw place value disks and arrows to represent each product.

4. $12 \times 10 =$ _____

(1 ten 2 ones) $\times 10 =$ _____

thousands	hundreds	tens	ones

5. $18 \times 100 =$ _____

$18 \times 10 \times 10 =$ _____

(1 ten 8 ones) $\times 100 =$ _____

thousands	hundreds	tens	ones

6. $25 \times 1,000 =$ _____

$25 \times 10 \times 10 \times 10 =$ _____

(2 tens 5 ones) $\times 1,000 =$

ten thousands	thousands	hundreds	tens	ones

Decompose each multiple of 10, 100, or 1,000 before multiplying.

7. $3 \times 40 = 3 \times 4 \times$ _____

$= 12 \times$ _____

$=$ _____

8. $3 \times 200 = 3 \times$ _____ \times _____

$=$ _____ \times _____

$=$ _____

9. $4 \times 4,000 =$ _____ \times _____ \times _____

$=$ _____ \times _____

$=$ _____

10. $5 \times 4,000 =$ _____ \times _____ \times _____

$=$ _____ \times _____

$=$ _____

Name _____

Date _____

Example:

$5 \times 10 = \underline{50}$

$5 \text{ ones} \times 10 = \underline{5} \text{ tens}$

thousands	hundreds	tens	ones

Draw place value disks and arrows as shown to represent each product.

1. $7 \times 100 = \underline{\hspace{2cm}}$

$7 \times 10 \times 10 = \underline{\hspace{2cm}}$

$7 \text{ ones} \times 100 = \underline{\hspace{2cm}}$

thousands	hundreds	tens	ones

2. $7 \times 1,000 = \underline{\hspace{2cm}}$

$7 \times 10 \times 10 \times 10 = \underline{\hspace{2cm}}$

$7 \text{ ones} \times 1,000 = \underline{\hspace{2cm}}$

thousands	hundreds	tens	ones

3. Fill in the blanks in the following equations.

a. $8 \times 10 = \underline{\hspace{2cm}}$

b. $\underline{\hspace{2cm}} \times 8 = 800$

c. $8,000 = \underline{\hspace{2cm}} \times 1,000$

d. $10 \times 3 = \underline{\hspace{2cm}}$

e. $3 \times \underline{\hspace{2cm}} = 3,000$

f. $\underline{\hspace{2cm}} \times 3 = 300$

g. $1,000 \times 4 = \underline{\hspace{2cm}}$

h. $\underline{\hspace{2cm}} = 10 \times 4$

i. $400 = \underline{\hspace{2cm}} \times 100$

Draw place value disks and arrows to represent each product.

4. $15 \times 10 =$ _____

(1 ten 5 ones) $\times 10 =$ _____

thousands	hundreds	tens	ones

5. $17 \times 100 =$ _____

$17 \times 10 \times 10 =$ _____

(1 ten 7 ones) $\times 100 =$ _____

thousands	hundreds	tens	ones

6. $36 \times 1,000 =$ _____

$36 \times 10 \times 10 \times 10 =$ _____

(3 tens 6 ones) $\times 1,000 =$ _____

ten thousands	thousands	hundreds	tens	ones

Decompose each multiple of 10, 100, or 1000 before multiplying.

7. $2 \times 80 = 2 \times 8 \times$ _____

$= 16 \times$ _____

$=$ _____

8. $2 \times 400 = 2 \times$ _____ \times _____

$=$ _____ \times _____

$=$ _____

9. $5 \times 5,000 =$ _____ \times _____ \times _____

$=$ _____ \times _____

$=$ _____

10. $7 \times 6,000 =$ _____ \times _____ \times _____

$=$ _____ \times _____

$=$ _____

thousands	hundreds	tens	ones

thousands place value chart

Name _____

Date _____

Draw place value disks to represent the value of the following expressions.

1. $2 \times 3 =$ _____

2 times _____ ones is _____ ones.

thousands	hundreds	tens	ones

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

2. $2 \times 30 =$ _____

2 times _____ tens is _____.

thousands	hundreds	tens	ones

$$\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$$

3. $2 \times 300 =$ _____

2 times _____ is _____.

thousands	hundreds	tens	ones

$$\begin{array}{r} 300 \\ \times 2 \\ \hline \end{array}$$

4. $2 \times 3,000 =$ _____

_____ times _____ is _____.

thousands	hundreds	tens	ones

$$\begin{array}{r} 3,000 \\ \times 2 \\ \hline \end{array}$$

5. Find the product.

a. 20×7	b. 3×60	c. 3×400	d. 2×800
e. 7×30	f. 60×6	g. 400×4	h. $4 \times 8,000$
i. 5×30	j. 5×60	k. 5×400	l. $8,000 \times 5$

6. Brianna buys 3 packs of balloons for a party. Each pack has 60 balloons. How many balloons does Brianna have?

7. Jordan has twenty times as many baseball cards as his brother. His brother has 9 cards. How many cards does Jordan have?
8. The aquarium has 30 times as many fish in one tank as Jacob has. The aquarium has 90 fish. How many fish does Jacob have?

Name _____

Date _____

Draw place value disks to represent the value of the following expressions.

1. $5 \times 2 =$ _____

5 times _____ ones is _____ ones.

thousands	hundreds	tens	ones

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

2. $5 \times 20 =$ _____

5 times _____ tens is _____.

thousands	hundreds	tens	ones

$$\begin{array}{r} 20 \\ \times 5 \\ \hline \end{array}$$

3. $5 \times 200 =$ _____

5 times _____ is _____.

thousands	hundreds	tens	ones

$$\begin{array}{r} 200 \\ \times 5 \\ \hline \end{array}$$

4. $5 \times 2,000 =$ _____

_____ times _____ is _____.

thousands	hundreds	tens	ones

$$\begin{array}{r} 2,000 \\ \times 5 \\ \hline \end{array}$$

5. Find the product.

a. 20×9	b. 6×70	c. 7×700	d. 3×900
e. 9×90	f. 40×7	g. 600×6	h. $8 \times 6,000$
i. 5×70	j. 5×80	k. 5×200	l. $6,000 \times 5$

6. At the school cafeteria, each student who orders lunch gets 6 chicken nuggets. The cafeteria staff prepares enough for 300 kids. How many chicken nuggets does the cafeteria staff prepare altogether?

7. Jaelynn has 30 times as many stickers as her brother. Her brother has 8 stickers. How many stickers does Jaelynn have?
8. The flower shop has 40 times as many flowers in one cooler as Julia has in her bouquet. The cooler has 120 flowers. How many flowers are in Julia's bouquet?

Name _____

Date _____

Represent the following problem by drawing disks in the place value chart.

1. To solve
- 20×40
- , think

$$(2 \text{ tens} \times 4) \times 10 = \underline{\hspace{2cm}}$$

$$20 \times (4 \times 10) = \underline{\hspace{2cm}}$$

$$20 \times 40 = \underline{\hspace{2cm}}$$

hundreds	tens	ones

2. Draw an area model to represent
- 20×40
- .

$$2 \text{ tens} \times 4 \text{ tens} = \underline{\hspace{2cm}}$$

3. Draw an area model to represent
- 30×40
- .

$$3 \text{ tens} \times 4 \text{ tens} = \underline{\hspace{2cm}}$$

$$30 \times 40 = \underline{\hspace{2cm}}$$

4. Draw an area model to represent 20×50 .

$$2 \text{ tens} \times 5 \text{ tens} = \underline{\hspace{2cm}}$$

$$20 \times 50 = \underline{\hspace{2cm}}$$

Rewrite each equation in unit form and solve.

5. $20 \times 20 = \underline{\hspace{2cm}}$

$$2 \text{ tens} \times 2 \text{ tens} = \underline{\hspace{1cm}} \text{ hundreds}$$

6. $60 \times 20 = \underline{\hspace{2cm}}$

$$6 \text{ tens} \times 2 \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ hundreds}$$

7. $70 \times 20 = \underline{\hspace{2cm}}$

$$\underline{\hspace{1cm}} \text{ tens} \times \underline{\hspace{1cm}} \text{ tens} = 14 \underline{\hspace{2cm}}$$

8. $70 \times 30 = \underline{\hspace{2cm}}$

$$\underline{\hspace{1cm}} \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ hundreds}$$

9. If there are 40 seats per row, how many seats are in 90 rows?

10. One ticket to the symphony costs \$50. How much money is collected if 80 tickets are sold?

Name _____

Date _____

Represent the following problem by drawing disks in the place value chart.

1. To solve
- 30×60
- , think

$$(3 \text{ tens} \times 6) \times 10 = \underline{\hspace{2cm}}$$

$$30 \times (6 \times 10) = \underline{\hspace{2cm}}$$

$$30 \times 60 = \underline{\hspace{2cm}}$$

hundreds	tens	ones

2. Draw an area model to represent
- 30×60
- .

$$3 \text{ tens} \times 6 \text{ tens} = \underline{\hspace{2cm}} \underline{\hspace{2cm}}$$

3. Draw an area model to represent
- 20×20
- .

$$2 \text{ tens} \times 2 \text{ tens} = \underline{\hspace{2cm}} \underline{\hspace{2cm}}$$

$$20 \times 20 = \underline{\hspace{2cm}}$$

4. Draw an area model to represent 40×60 .

$$4 \text{ tens} \times 6 \text{ tens} = \underline{\hspace{2cm}} \underline{\hspace{2cm}}$$

$$40 \times 60 = \underline{\hspace{2cm}}$$

Rewrite each equation in unit form and solve.

5. $50 \times 20 = \underline{\hspace{2cm}}$

$$5 \text{ tens} \times 2 \text{ tens} = \underline{\hspace{1cm}} \text{ hundreds}$$

6. $30 \times 50 = \underline{\hspace{2cm}}$

$$3 \text{ tens} \times 5 \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ hundreds}$$

7. $60 \times 20 = \underline{\hspace{2cm}}$

$$\underline{\hspace{1cm}} \text{ tens} \times \underline{\hspace{1cm}} \text{ tens} = 12 \underline{\hspace{2cm}}$$

8. $40 \times 70 = \underline{\hspace{2cm}}$

$$\underline{\hspace{1cm}} \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ hundreds}$$

9. There are 60 seconds in a minute and 60 minutes in an hour. How many seconds are in one hour?
10. To print a comic book, 50 pieces of paper are needed. How many pieces of paper are needed to print 40 comic books?

Name _____

Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically as shown below.

a. 1×43

tens	ones
● ● ● ●	● ● ●

$$\begin{array}{r}
 43 \\
 \times 1 \\
 \hline
 3 \rightarrow 1 \times 3 \text{ ones} \\
 + 40 \rightarrow 1 \times 4 \text{ tens} \\
 \hline
 43
 \end{array}$$

b. 2×43

tens	ones

c. 3×43

hundreds	tens	ones

d. 4×43

hundreds	tens	ones

2. Represent the following expressions with disks, regrouping as necessary. To the right, record the partial products vertically.

a. 2×36

hundreds	tens	ones

b. 3×61

hundreds	tens	ones

c. 4×84

hundreds	tens	ones

Name _____

Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically.

a. 3×24

tens	ones

b. 3×42

hundreds	tens	ones

c. 4×34

hundreds	tens	ones

2. Represent the following expressions with disks, regrouping as necessary. To the right, record the partial products vertically.

a. 4×27

hundreds	tens	ones

b. 5×42

hundreds	tens	ones

3. Cindy says she found a shortcut for doing multiplication problems. When she multiplies 3×24 , she says, “ 3×4 is 12 ones, or 1 ten and 2 ones. Then, there’s just 2 tens left in 24, so add it up, and you get 3 tens and 2 ones.” Do you think Cindy’s shortcut works? Explain your thinking in words, and justify your response using a model or partial products.

ten thousands	thousands	hundreds	tens	ones

ten thousands place value chart

Name _____

Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically as shown below.

a. 1×213

hundreds	tens	ones

$$\begin{array}{r}
 2 \quad 1 \quad 3 \\
 \times \quad \quad 1 \\
 \hline
 \\
 + \\
 \hline
 \end{array}$$

$\rightarrow 1 \times 3$ ones
 $\rightarrow 1 \times 1$ ten
 $\rightarrow 1 \times 2$ hundreds

$1 \times \underline{\quad}$ hundreds + $1 \times \underline{\quad}$ ten + $1 \times \underline{\quad}$ ones

b. 2×213

hundreds	tens	ones

c. 3×214

hundreds	tens	ones

d. $3 \times 1,254$

thousands	hundreds	tens	ones

2. Represent the following expressions with disks, using either method shown during class, regrouping as necessary. To the right, record the partial products vertically.

a. 3×212

b. $2 \times 4,036$

c. $3 \times 2,546$

d. $3 \times 1,407$

3. Every day at the bagel factory, Cyndi makes 5 different kinds of bagels. If she makes 144 of each kind, what is the total number of bagels that she makes?

Name _____

Date _____

1. Represent the following expressions with disks, regrouping as necessary, writing a matching expression, and recording the partial products vertically as shown below.

a. 2×424

hundreds	tens	ones
● ● ● ●	● ●	● ● ● ●

$$\begin{array}{r}
 4 \ 2 \ 4 \\
 \times \quad \quad 2 \\
 \hline
 \\
 \\
 + \\
 \hline
 \end{array}
 \begin{array}{l}
 \rightarrow 2 \times \text{ones} \\
 \rightarrow 2 \times \text{tens} \\
 \rightarrow 2 \times \text{hundreds}
 \end{array}$$

$2 \times \text{ones} + 2 \times \text{tens} + 2 \times \text{hundreds}$

b. 3×424

hundreds	tens	ones

c. $4 \times 1,424$

2. Represent the following expressions with disks, using either method shown in class, regrouping as necessary. To the right, record the partial products vertically.

a. 2×617

b. 5×642

c. $3 \times 3,034$

Name _____

Date _____

1. Solve using each method.

Partial Products	Standard Algorithm
a. $\begin{array}{r} 34 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ \times 4 \\ \hline \end{array}$

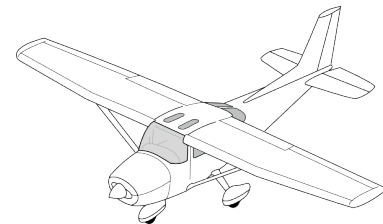
Partial Products	Standard Algorithm
b. $\begin{array}{r} 224 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 224 \\ \times 3 \\ \hline \end{array}$

2. Solve. Use the standard algorithm.

a. $\begin{array}{r} 251 \\ \times 3 \\ \hline \end{array}$	b. $\begin{array}{r} 135 \\ \times 6 \\ \hline \end{array}$	c. $\begin{array}{r} 304 \\ \times 9 \\ \hline \end{array}$
d. $\begin{array}{r} 405 \\ \times 4 \\ \hline \end{array}$	e. $\begin{array}{r} 316 \\ \times 5 \\ \hline \end{array}$	f. $\begin{array}{r} 392 \\ \times 6 \\ \hline \end{array}$

3. The product of 7 and 86 is _____.
4. 9 times as many as 457 is _____.

5. Jashawn wants to make 5 airplane propellers.
He needs 18 centimeters of wood for each propeller.
How many centimeters of wood will he use?



6. One game system costs \$238. How much will 4 game systems cost?

7. A small bag of chips weighs 48 grams. A large bag of chips weighs three times as much as the small bag. How much will 7 large bags of chips weigh?



Name _____

Date _____

1. Solve using each method.

Partial Products	Standard Algorithm
a. $\begin{array}{r} 46 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ \times 2 \\ \hline \end{array}$

Partial Products	Standard Algorithm
b. $\begin{array}{r} 315 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 315 \\ \times 4 \\ \hline \end{array}$

2. Solve using the standard algorithm.

a. $\begin{array}{r} 232 \\ \times 4 \\ \hline \end{array}$	b. $\begin{array}{r} 142 \\ \times 6 \\ \hline \end{array}$	c. $\begin{array}{r} 314 \\ \times 7 \\ \hline \end{array}$
d. $\begin{array}{r} 440 \\ \times 3 \\ \hline \end{array}$	e. $\begin{array}{r} 507 \\ \times 8 \\ \hline \end{array}$	f. $\begin{array}{r} 384 \\ \times 9 \\ \hline \end{array}$

6. Mr. Meyers wants to order 4 tablets for his classroom. Each tablet costs \$329. How much will all four tablets cost?
7. Amaya read 64 pages last week. Amaya's older brother, Rogelio, read twice as many pages in the same amount of time. Their big sister, Elianna, is in high school and read 4 times as many pages as Rogelio did. How many pages did Elianna read last week?

Name _____

Date _____

1. Solve using the standard algorithm.

a. 3×42	b. 6×42
c. 6×431	d. 3×431
e. $3 \times 6,212$	f. $3 \times 3,106$
g. $4 \times 4,309$	h. $4 \times 8,618$

Name _____

Date _____

1. Solve using the standard algorithm.

a. 3×41	b. 9×41
c. 7×143	d. 7×286
e. $4 \times 2,048$	f. $4 \times 4,096$
g. $8 \times 4,096$	h. $4 \times 8,192$

Name _____

Date _____

1. Solve the following expressions using the standard algorithm, the partial products method, and the area model.

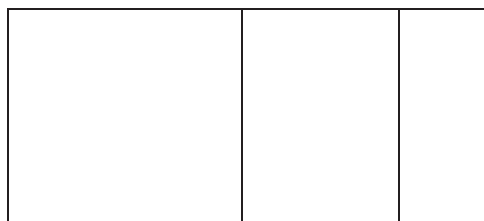
a. 425×4



$$4(400 + 20 + 5)$$

$$(4 \times \underline{\quad}) + (4 \times \underline{\quad}) + (4 \times \underline{\quad})$$

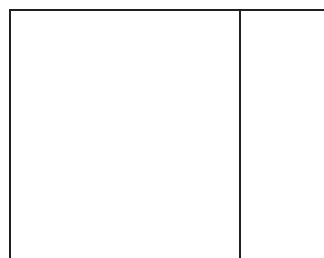
b. 534×7



$$7(\underline{\quad} + \underline{\quad} + \underline{\quad})$$

$$(\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$$

c. 209×8



$$\underline{\quad}(\underline{\quad} + \underline{\quad})$$

$$(\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$$

2. Solve using the partial products method.

Cayla's school has 258 students. Janet's school has 3 times as many students as Cayla's. How many students are in Janet's school?

3. Model with a tape diagram and solve.

4 times as much as 467

Solve using the standard algorithm, the area model, the distributive property, or the partial products method.

4. $5,131 \times 7$

5. 3 times as many as 2,805
6. A restaurant sells 1,725 pounds of spaghetti and 925 pounds of linguini every month. After 9 months, how many pounds of pasta does the restaurant sell?

Name _____

Date _____

1. Solve the following expressions using the standard algorithm, the partial products method, and the area model.

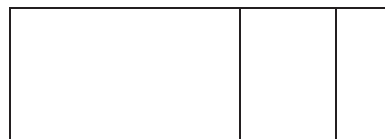
a. 302×8



$8(300 + 2)$

$(8 \times \underline{\quad}) + (8 \times \underline{\quad})$

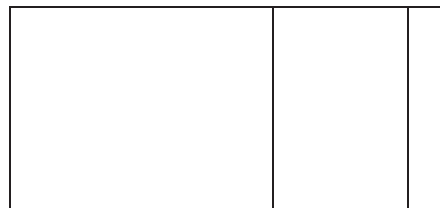
b. 216×5



$5(\underline{\quad} + \underline{\quad} + \underline{\quad})$

$(\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$

c. 593×9



$\underline{\quad}(\underline{\quad} + \underline{\quad} + \underline{\quad})$

$(\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$

2. Solve using the partial products method.

On Monday, 475 people visited the museum. On Saturday, there were 4 times as many visitors as there were on Monday. How many people visited the museum on Saturday?

3. Model with a tape diagram and solve.

6 times as much as 384

Solve using the standard algorithm, the area model, the distributive property, or the partial products method.

4. $6,253 \times 3$

5. 7 times as many as 3,073
6. A cafeteria makes 2,516 pounds of white rice and 608 pounds of brown rice every month. After 6 months, how many pounds of rice does the cafeteria make?

Name _____

Date _____

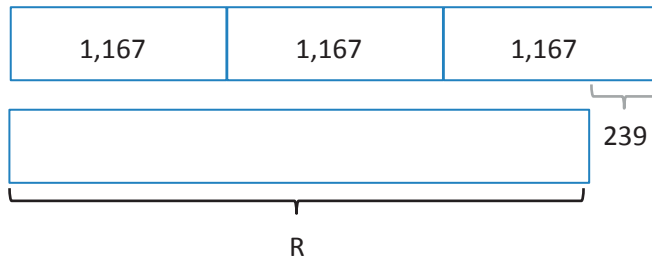
Use the RDW process to solve the following problems.

1. The table shows the cost of party favors. Each party guest receives a bag with 1 balloon, 1 lollipop, and 1 bracelet. What is the total cost for 9 guests?

Item	Cost
1 balloon	26¢
1 lollipop	14¢
1 bracelet	33¢

2. The Turner family uses 548 liters of water per day. The Hill family uses 3 times as much water per day. How much water does the Hill family use per week?
3. Jayden has 347 marbles. Elvis has 4 times as many as Jayden. Presley has 799 fewer than Elvis. How many marbles does Presley have?

4. a. Write an equation that would allow someone to find the value of R.



- b. Write your own word problem to correspond to the tape diagram, and then solve.

Name _____

Date _____

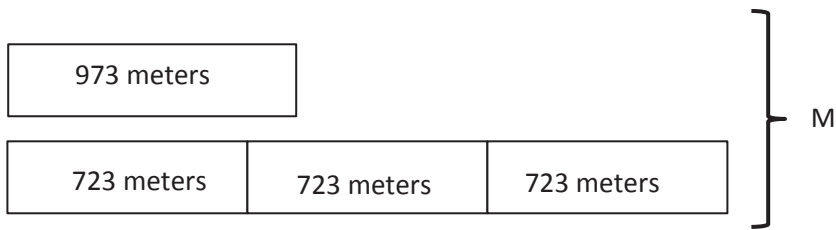
Use the RDW process to solve the following problems.

1. The table shows the number of stickers of various types in Chrissy's new sticker book. Chrissy's six friends each own the same sticker book. How many stickers do Chrissy and her six friends have altogether?

Type of Sticker	Number of Stickers
flowers	32
smiley faces	21
hearts	39

2. The small copier makes 437 copies each day. The large copier makes 4 times as many copies each day. How many copies does the large copier make each week?
3. Jared sold 194 Boy Scout chocolate bars. Matthew sold three times as many as Jared. Gary sold 297 fewer than Matthew. How many bars did Gary sell?

4. a. Write an equation that would allow someone to find the value of M .



- b. Write your own word problem to correspond to the tape diagram, and then solve.

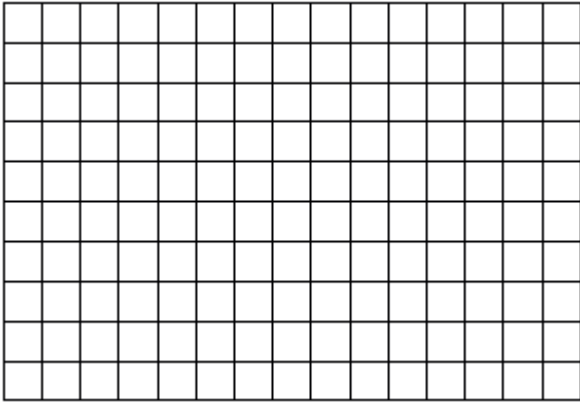
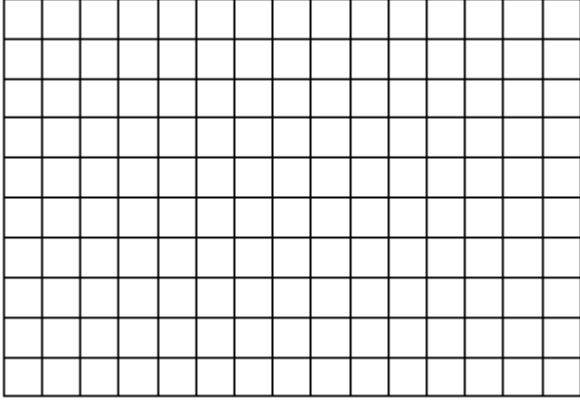
3. Three boxes weighing 128 pounds each and one box weighing 254 pounds were loaded onto the back of an empty truck. A crate of apples was then loaded onto the same truck. If the total weight loaded onto the truck was 2,000 pounds, how much did the crate of apples weigh?
4. In one month, Charlie read 814 pages. In the same month, his mom read 4 times as many pages as Charlie, and that was 143 pages more than Charlie's dad read. What was the total number of pages read by Charlie and his parents?

3. All 3,000 seats in a theater are being replaced. So far, 5 sections of 136 seats and a sixth section containing 348 seats have been replaced. How many more seats do they still need to replace?
4. Computer Depot sold 762 reams of paper. Paper Palace sold 3 times as much paper as Computer Depot and 143 reams more than Office Supply Central. How many reams of paper were sold by all three stores combined?

4. A trainer gives his horse, Caballo, 7 gallons of water every day from a 57-gallon container. How many days will Caballo receive his full portion of water from the container? On which number day will the trainer need to refill the container of water?
5. Meliza has 43 toy soldiers. She lines them up in rows of 5 to fight imaginary zombies. How many of these rows can she make? After making as many rows of 5 as she can, she puts the remaining soldiers in the last row. How many soldiers are in that row?
6. Seventy-eight students are separated into groups of 8 for a field trip. How many groups are there? The remaining students form a smaller group of how many students?


Name _____

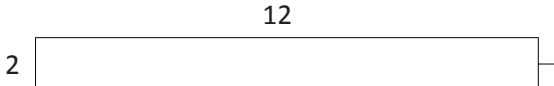
Date _____

Show division using an array.	Show division using an area model.
<p>1. $18 \div 6$</p> <p>Quotient = _____</p> <p>Remainder = _____</p>	 <p>Can you show $18 \div 6$ with one rectangle? _____</p>
<p>2. $19 \div 6$</p> <p>Quotient = _____</p> <p>Remainder = _____</p>	 <p>Can you show $19 \div 6$ with one rectangle? _____</p> <p>Explain how you showed the remainder:</p>

Solve using an array and an area model. The first one is done for you.

Example: $25 \div 2$

a. 
Quotient = 12 Remainder = 1

b. 

3. $29 \div 3$

a. b.

4. $22 \div 5$

a. b.

5. $43 \div 4$

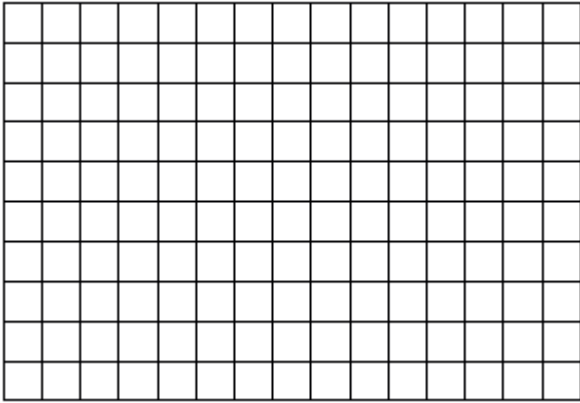
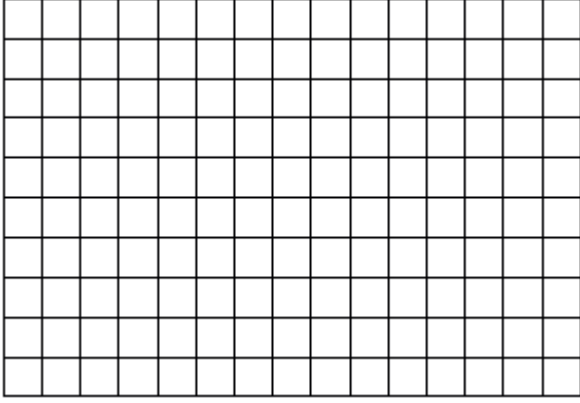
a. b.

6. $59 \div 7$

a. b.

Name _____

Date _____

Show division using an array.	Show division using an area model.
<p>1. $24 \div 4$</p> <p>Quotient = _____</p> <p>Remainder = _____</p>	 <p>Can you show $24 \div 4$ with one rectangle? _____</p>
<p>2. $25 \div 4$</p> <p>Quotient = _____</p> <p>Remainder = _____</p>	 <p>Can you show $25 \div 4$ with one rectangle? _____</p> <p>Explain how you showed the remainder:</p>

Solve using an array and area model. The first one is done for you.

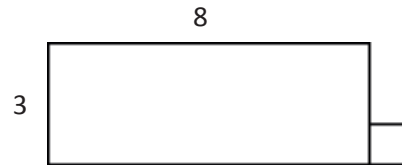
Example: $25 \div 3$

a.



Quotient = 8 Remainder = 1

b.



3. $44 \div 7$

a.

b.

4. $34 \div 6$

a.

b.

5. $37 \div 6$

a.

b.

6. $46 \div 8$

a.

b.

Name _____

Date _____

Show the division using disks. Relate your work on the place value chart to long division. Check your quotient and remainder by using multiplication and addition.

1. $7 \div 2$

Ones

$$2 \overline{) 7}$$

quotient = _____

remainder = _____

Check Your Work

3

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

2. $27 \div 2$

Tens	Ones

$$2 \overline{) 27}$$

quotient = _____

remainder = _____

Check Your Work

3. $8 \div 3$

Ones

$3 \overline{)8}$

quotient = _____

remainder = _____

Check Your Work

4. $38 \div 3$

Tens	Ones

$3 \overline{)38}$

quotient = _____

remainder = _____

Check Your Work

5. $6 \div 4$

Ones

$$4 \overline{) 6}$$

quotient = _____

remainder = _____

Check Your Work

6. $86 \div 4$

Tens	Ones

$$4 \overline{) 86}$$

quotient = _____

remainder = _____

Check Your Work

Name _____

Date _____

Show the division using disks. Relate your work on the place value chart to long division. Check your quotient and remainder by using multiplication and addition.

1. $7 \div 3$

Ones

$$3 \overline{) 7}$$

quotient = _____

remainder = _____

Check Your Work

2

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

2. $67 \div 3$

Tens	Ones

$$3 \overline{) 67}$$

quotient = _____

remainder = _____

Check Your Work

3. $5 \div 2$

Ones

$$2 \overline{) 5}$$

quotient = _____

remainder = _____

Check Your Work

4. $85 \div 2$

Tens	Ones

$$2 \overline{) 85}$$

quotient = _____

remainder = _____

Check Your Work

5. $5 \div 4$

Ones

$$4 \overline{) 5}$$

quotient = _____

remainder = _____

Check Your Work

6. $85 \div 4$

Tens	Ones

$$4 \overline{) 85}$$

quotient = _____

remainder = _____

Check Your Work

ones	
tens	

tens place value chart

Name _____

Date _____

Show the division using disks. Relate your model to long division. Check your quotient and remainder by using multiplication and addition.

1. $5 \div 2$

Ones

$$2 \overline{) 5}$$

quotient = _____

remainder = _____

Check Your Work

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

2. $50 \div 2$

Tens	Ones

$$2 \overline{) 50}$$

quotient = _____

remainder = _____

Check Your Work

3. $7 \div 3$

Ones

$$3 \overline{) 7}$$

quotient = _____

remainder = _____

Check Your Work

4. $75 \div 3$

Tens	Ones

$$3 \overline{) 75}$$

quotient = _____

remainder = _____

Check Your Work

5. $9 \div 4$

Ones

$$4 \overline{) 9}$$

quotient = _____

remainder = _____

Check Your Work

6. $92 \div 4$

Tens	Ones

$$4 \overline{) 92}$$

quotient = _____

remainder = _____

Check Your Work

Name _____

Date _____

Show the division using disks. Relate your model to long division. Check your quotient and remainder by using multiplication and addition.

1. $7 \div 2$

Ones

$$2 \overline{) 7}$$

quotient = _____

remainder = _____

Check Your Work

2. $73 \div 2$

Tens	Ones

$$2 \overline{) 73}$$

quotient = _____

remainder = _____

Check Your Work

3. $6 \div 4$

Ones

$$4 \overline{) 6}$$

Check Your Work

quotient = _____

remainder = _____

4. $62 \div 4$

Tens	Ones

$$4 \overline{) 62}$$

Check Your Work

quotient = _____

remainder = _____

5. $8 \div 3$

Ones

$$3 \overline{) 8}$$

quotient = _____

remainder = _____

Check Your Work

6. $84 \div 3$

Tens	Ones

$$3 \overline{) 84}$$

quotient = _____

remainder = _____

Check Your Work

Name _____

Date _____

Solve using the standard algorithm. Check your quotient and remainder by using multiplication and addition.

1. $46 \div 2$

2. $96 \div 3$

3. $85 \div 5$

4. $52 \div 4$

5. $53 \div 3$

6. $95 \div 4$

7. $89 \div 6$

8. $96 \div 6$

9. $60 \div 3$

10. $60 \div 4$

11. $95 \div 8$

12. $95 \div 7$

Name _____

Date _____

Solve using the standard algorithm. Check your quotient and remainder by using multiplication and addition.

1. $84 \div 2$

2. $84 \div 4$

3. $48 \div 3$

4. $80 \div 5$

5. $79 \div 5$

6. $91 \div 4$

7. $91 \div 6$

8. $91 \div 7$

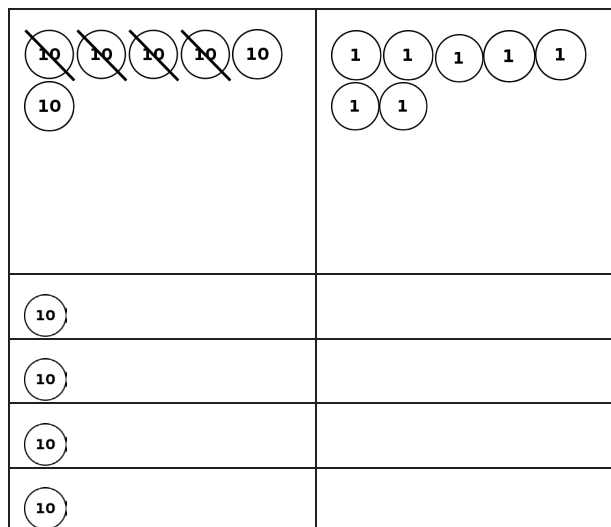
9. $87 \div 3$

10. $87 \div 6$

11. $94 \div 8$

12. $94 \div 6$

3. The place value disk model is showing $67 \div 4$. Complete the model. Explain what happens to the 2 tens that are remaining in the tens column.



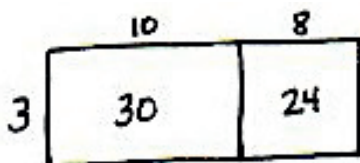
4. Two friends share 76 blueberries.
- a. To count the blueberries, they put them into small bowls of 10 blueberries. Draw a picture to show how the blueberries can be shared equally. Will they have to split apart any of the bowls of 10 blueberries when they share them?
- b. Explain how the friends can share the blueberries fairly.

Name _____

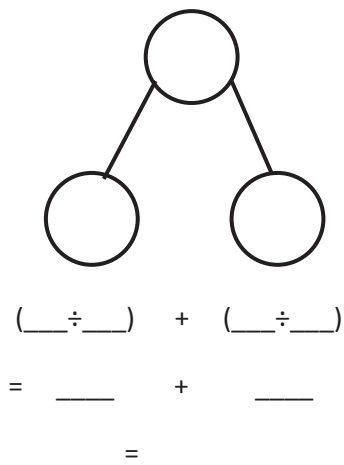
Date _____

1. Maria solved a division problem by drawing an area model.

a. Look at the area model. What division problem did Maria solve?



b. Show a number bond to represent Maria's area model. Start with the total, and then show how the total is split into two parts. Below the two parts, represent the total length using the distributive property, and then solve.



2. Solve $42 \div 3$ using an area model. Draw a number bond, and use the distributive property to solve for the unknown length.

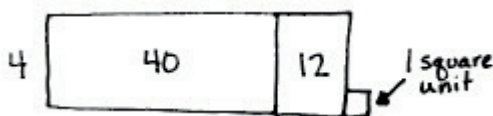
Name _____

Date _____

1. Solve $37 \div 2$ using an area model. Use long division and the distributive property to record your work.

2. Solve $76 \div 3$ using an area model. Use long division and the distributive property to record your work.

3. Carolina solved the following division problem by drawing an area model.



- a. What division problem did she solve?
- b. Show how Carolina's model can be represented using the distributive property.

Solve the following problems using the area model. Support the area model with long division or the distributive property.

4. $48 \div 3$

5. $49 \div 3$

6. $56 \div 4$

7. $58 \div 4$

8. $66 \div 5$

9. $79 \div 3$

10. Seventy-three students are divided into groups of 6 students each. How many groups of 6 students are there? How many students will not be in a group of 6?

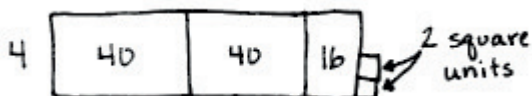
Name _____

Date _____

1. Solve $35 \div 2$ using an area model. Use long division and the distributive property to record your work.

2. Solve $79 \div 3$ using an area model. Use long division and the distributive property to record your work.

3. Paulina solved the following division problem by drawing an area model.



- a. What division problem did she solve?
- b. Show how Paulina's model can be represented using the distributive property.

Solve the following problems using the area model. Support the area model with long division or the distributive property.

4. $42 \div 3$

5. $43 \div 3$

6. $52 \div 4$

7. $54 \div 4$

8. $61 \div 5$

9. $73 \div 3$

10. Ninety-seven lunch trays were placed equally in 4 stacks. How many lunch trays were in each stack?
How many lunch trays will be left over?

Name _____

Date _____

1. Record the factors of the given numbers as multiplication sentences and as a list in order from least to greatest. Classify each as prime (P) or composite (C). The first problem is done for you.

	Multiplication Sentences	Factors	P or C
a.	4 $1 \times 4 = 4$ $2 \times 2 = 4$	The factors of 4 are: 1, 2, 4	C
b.	6	The factors of 6 are:	
c.	7	The factors of 7 are:	
d.	9	The factors of 9 are:	
e.	12	The factors of 12 are:	
f.	13	The factors of 13 are:	
g.	15	The factors of 15 are:	
h.	16	The factors of 16 are:	
i.	18	The factors of 18 are:	
j.	19	The factors of 19 are:	
k.	21	The factors of 21 are:	
l.	24	The factors of 24 are:	

2. Find all factors for the following numbers, and classify each number as prime or composite. Explain your classification of each as prime or composite.

Factor Pairs for 25		Factor Pairs for 28		Factor Pairs for 29	

3. Bryan says all prime numbers are odd numbers.
- List all of the prime numbers less than 20 in numerical order.
 - Use your list to show that Bryan's claim is false.
4. Sheila has 28 stickers to divide evenly among 3 friends. She thinks there will be no leftovers. Use what you know about factor pairs to explain if Sheila is correct.

Name _____

Date _____

1. Record the factors of the given numbers as multiplication sentences and as a list in order from least to greatest. Classify each as prime (P) or composite (C). The first problem is done for you.

	Multiplication Sentences	Factors	P or C
a.	8 $1 \times 4 = 8$ $2 \times 4 = 8$	The factors of 8 are: 1, 2, 4, 8	C
b.	10	The factors of 10 are:	
c.	11	The factors of 11 are:	
d.	14	The factors of 14 are:	
e.	17	The factors of 17 are:	
f.	20	The factors of 20 are:	
g.	22	The factors of 22 are:	
h.	23	The factors of 23 are:	
i.	25	The factors of 25 are:	
j.	26	The factors of 26 are:	
k.	27	The factors of 27 are:	
l.	28	The factors of 28 are:	

2. Find all factors for the following numbers, and classify each number as prime or composite. Explain your classification of each as prime or composite.

Factor Pairs for 19		Factor Pairs for 21		Factor Pairs for 24	

3. Bryan says that only even numbers are composite.
- List all of the odd numbers less than 20 in numerical order.
 - Use your list to show that Bryan's claim is false.
4. Julie has 27 grapes to divide evenly among 3 friends. She thinks there will be no leftovers. Use what you know about factor pairs to explain whether or not Julie is correct.

Name _____

Date _____

1. Explain your thinking or use division to answer the following.

a. Is 2 a factor of 84?	b. Is 2 a factor of 83?
c. Is 3 a factor of 84?	d. Is 2 a factor of 92?
e. Is 6 a factor of 84?	f. Is 4 a factor of 92?
g. Is 5 a factor of 84?	h. Is 8 a factor of 92?

2. Use the associative property to find more factors of 24 and 36.

a. $24 = 12 \times 2$

$$= (\underline{\quad} \times 3) \times 2$$

$$= \underline{\quad} \times (3 \times 2)$$

$$= \underline{\quad} \times 6$$

$$= \underline{\quad}$$

b. $36 = \underline{\quad} \times 4$

$$= (\underline{\quad} \times 3) \times 4$$

$$= \underline{\quad} \times (3 \times 4)$$

$$= \underline{\quad} \times 12$$

$$= \underline{\quad}$$

3. In class, we used the associative property to show that when 6 is a factor, then 2 and 3 are factors, because $6 = 2 \times 3$. Use the fact that $8 = 4 \times 2$ to show that 2 and 4 are factors of 56, 72, and 80.

$$56 = 8 \times 7$$

$$72 = 8 \times 9$$

$$80 = 8 \times 10$$

4. The first statement is false. The second statement is true. Explain why, using words, pictures, or numbers.

If a number has 2 and 4 as factors, then it has 8 as a factor.

If a number has 8 as a factor, then both 2 and 4 are factors.

Name _____

Date _____

1. Explain your thinking or use division to answer the following.

a. Is 2 a factor of 72?	b. Is 2 a factor of 73?
c. Is 3 a factor of 72?	d. Is 2 a factor of 60?
e. Is 6 a factor of 72?	f. Is 4 a factor of 60?
g. Is 5 a factor of 72?	h. Is 8 a factor of 60?

2. Use the associative property to find more factors of 12 and 30.

a. $12 = 6 \times 2$

$$= (\underline{\quad} \times 2) \times 2$$

$$= \underline{\quad} \times (2 \times 2)$$

$$= \underline{\quad} \times \underline{\quad}$$

$$= \underline{\quad}$$

b. $30 = \underline{\quad} \times 5$

$$= (\underline{\quad} \times 3) \times 5$$

$$= \underline{\quad} \times (3 \times 5)$$

$$= \underline{\quad} \times 15$$

$$= \underline{\quad}$$

3. In class, we used the associative property to show that when 6 is a factor, then 2 and 3 are factors, because $6 = 2 \times 3$. Use the fact that $10 = 5 \times 2$ to show that 2 and 5 are factors of 70, 80, and 90.

$$70 = 10 \times 7$$

$$80 = 10 \times 8$$

$$90 = 10 \times 9$$

4. The first statement is false. The second statement is true. Explain why, using words, pictures, or numbers.

If a number has 2 and 6 as factors, then it has 12 as a factor.

If a number has 12 as a factor, then both 2 and 6 are factors.

Name _____

Date _____

1. For each of the following, time yourself for 1 minute. See how many multiples you can write.
 - a. Write the multiples of 5 starting from 100.

 - b. Write the multiples of 4 starting from 20.

 - c. Write the multiples of 6 starting from 36.

2. List the numbers that have 24 as a multiple.

3. Use mental math, division, or the associative property to solve. (Use scratch paper if you like.)
 - a. Is 12 a multiple of 4? _____ Is 4 a factor of 12? _____
 - b. Is 42 a multiple of 8? _____ Is 8 a factor of 42? _____
 - c. Is 84 a multiple of 6? _____ Is 6 a factor of 84? _____

4. Can a prime number be a multiple of any other number except itself? Explain why or why not.

5. Follow the directions below.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

- a. Circle in red the multiples of 2. When a number is a multiple of 2, what are the possible values for the ones digit?
- b. Shade in green the multiples of 3. Choose one. What do you notice about the sum of the digits? Choose another. What do you notice about the sum of the digits?
- c. Circle in blue the multiples of 5. When a number is a multiple of 5, what are the possible values for the ones digit?
- d. Draw an X over the multiples of 10. What digit do all multiples of 10 have in common?

Name _____

Date _____

1. For each of the following, time yourself for 1 minute. See how many multiples you can write.
 - a. Write the multiples of 5 starting from 75.

 - b. Write the multiples of 4 starting from 40.

 - c. Write the multiples of 6 starting from 24.

2. List the numbers that have 30 as a multiple.

3. Use mental math, division, or the associative property to solve. (Use scratch paper if you like.)
 - a. Is 12 a multiple of 3? _____ Is 3 a factor of 12? _____

 - b. Is 48 a multiple of 8? _____ Is 48 a factor of 8? _____

 - c. Is 56 a multiple of 6? _____ Is 6 a factor of 56? _____

4. Can a prime number be a multiple of any other number except itself? Explain why or why not.

5. Follow the directions below.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

- a. Underline the multiples of 6. When a number is a multiple of 6, what are the possible values for the ones digit?
- b. Draw a square around the multiples of 4. Look at the multiples of 4 that have an odd number in the tens place. What values do they have in the ones place?
- c. Look at the multiples of 4 that have an even number in the tens place. What values do they have in the ones place? Do you think this pattern would continue with multiples of 4 that are larger than 100?
- d. Circle the multiples of 9. Choose one. What do you notice about the sum of the digits? Choose another one. What do you notice about the sum of the digits?

Name _____

Date _____

1. Follow the directions.

Shade the number 1 red.

- Circle the first unmarked number.
- Cross off every multiple of that number except the one you circled. If it's already crossed off, skip it.
- Repeat Steps (a) and (b) until every number is either circled or crossed off.
- Shade every crossed out number in orange.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2. a. List the circled numbers.
- b. Why were the circled numbers not crossed off along the way?
- c. Except for the number 1, what is similar about all of the numbers that were crossed off?
- d. What is similar about all of the numbers that were circled?

Name _____

Date _____

1. A student used the sieve of Eratosthenes to find all prime numbers less than 100. Create a step-by-step set of directions to show how it was completed. Use the word bank to help guide your thinking as you write the directions. Some words may be used just once, more than once, or not at all.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Word Bank

composite	cross out
number	shade
circle	X
multiple	prime

Directions for completing the sieve of Eratosthenes activity:

Name _____

Date _____

1. Draw place value disks to represent the following problems. Rewrite each in unit form and solve.

a. $6 \div 2 =$ _____



6 ones $\div 2 =$ _____ ones

b. $60 \div 2 =$ _____

6 tens $\div 2 =$ _____

c. $600 \div 2 =$ _____

_____ $\div 2 =$ _____

d. $6,000 \div 2 =$ _____

_____ $\div 2 =$ _____

2. Draw place value disks to represent each problem. Rewrite each in unit form and solve.

a. $12 \div 3 =$ _____

12 ones $\div 3 =$ _____ ones

b. $120 \div 3 =$ _____

_____ $\div 3 =$ _____

c. $1,200 \div 3 =$ _____

_____ $\div 3 =$ _____

3. Solve for the quotient. Rewrite each in unit form.

<p>a. $800 \div 2 = 400$</p> <p>8 hundreds $\div 2 =$ 4 hundreds</p>	<p>b. $600 \div 2 = \underline{\hspace{2cm}}$</p>	<p>c. $800 \div 4 = \underline{\hspace{2cm}}$</p>	<p>d. $900 \div 3 = \underline{\hspace{2cm}}$</p>
<p>e. $300 \div 6 = \underline{\hspace{2cm}}$</p> <p>30 tens $\div 6 = \underline{\hspace{1cm}}$ tens</p>	<p>f. $240 \div 4 = \underline{\hspace{2cm}}$</p>	<p>g. $450 \div 5 = \underline{\hspace{2cm}}$</p>	<p>h. $200 \div 5 = \underline{\hspace{2cm}}$</p>
<p>i. $3,600 \div 4 = \underline{\hspace{2cm}}$</p> <p>36 hundreds $\div 4 =$ $\underline{\hspace{1cm}}$ hundreds</p>	<p>j. $2,400 \div 4 = \underline{\hspace{2cm}}$</p>	<p>k. $2,400 \div 3 = \underline{\hspace{2cm}}$</p>	<p>l. $4,000 \div 5 = \underline{\hspace{2cm}}$</p>

4. Some sand weighs 2,800 kilograms. It is divided equally among 4 trucks. How many kilograms of sand are in each truck?

5. Ivy has 5 times as many stickers as Adrian has. Ivy has 350 stickers. How many stickers does Adrian have?
6. An ice cream stand sold \$1,600 worth of ice cream on Saturday, which was 4 times the amount sold on Friday. How much money did the ice cream stand collect on Friday?

Name _____

Date _____

1. Draw place value disks to represent the following problems. Rewrite each in unit form and solve.

a. $6 \div 3 =$ _____



6 ones $\div 3 =$ _____ ones

b. $60 \div 3 =$ _____

6 tens $\div 3 =$ _____

c. $600 \div 3 =$ _____

_____ $\div 3 =$ _____

d. $6,000 \div 3 =$ _____

_____ $\div 3 =$ _____

2. Draw place value disks to represent each problem. Rewrite each in unit form and solve.

a. $12 \div 4 =$ _____

12 ones $\div 4 =$ _____ ones

b. $120 \div 4 =$ _____

_____ $\div 4 =$ _____

c. $1,200 \div 4 =$ _____

_____ $\div 4 =$ _____

3. Solve for the quotient. Rewrite each in unit form.

<p>a. $800 \div 4 = 200$</p> <p>8 hundreds $\div 4 =$ 2 hundreds</p>	<p>b. $900 \div 3 = \underline{\hspace{2cm}}$</p>	<p>c. $400 \div 2 = \underline{\hspace{2cm}}$</p>	<p>d. $300 \div 3 = \underline{\hspace{2cm}}$</p>
<p>e. $200 \div 4 = \underline{\hspace{2cm}}$</p> <p>20 tens $\div 4 = \underline{\hspace{1cm}}$ tens</p>	<p>f. $160 \div 2 = \underline{\hspace{2cm}}$</p>	<p>g. $400 \div 5 = \underline{\hspace{2cm}}$</p>	<p>h. $300 \div 5 = \underline{\hspace{2cm}}$</p>
<p>i. $1,200 \div 3 =$ $\underline{\hspace{2cm}}$</p> <p>12 hundreds $\div 3 =$ $\underline{\hspace{1cm}}$ hundreds</p>	<p>j. $1,600 \div 4 = \underline{\hspace{2cm}}$</p>	<p>k. $2,400 \div 4 = \underline{\hspace{2cm}}$</p>	<p>l. $3,000 \div 5 = \underline{\hspace{2cm}}$</p>

4. A fleet of 5 fire engines carries a total of 20,000 liters of water. If each truck holds the same amount of water, how many liters of water does each truck carry?

5. Jamie drank 4 times as much juice as Brodie. Jamie drank 280 milliliters of juice. How much juice did Brodie drink?
6. A diner sold \$2,400 worth of French fries in June, which was 4 times as much as was sold in May. How many dollars' worth of French fries were sold at the diner in May?

ones	
tens	
hundreds	
thousands	

thousands place value chart for dividing

Name _____

Date _____

1. Divide. Use place value disks to model each problem.

a. $324 \div 2$

b. $344 \div 2$

c. $483 \div 3$

d. $549 \div 3$

2. Model using place value disks and record using the algorithm.

a. $655 \div 5$
Disks

Algorithm

b. $726 \div 3$
Disks

Algorithm

c. $688 \div 4$
Disks

Algorithm

Name _____

Date _____

1. Divide. Use place value disks to model each problem.

a. $346 \div 2$

b. $528 \div 2$

c. $516 \div 3$

d. $729 \div 3$

2. Model using place value disks, and record using the algorithm.

a. $648 \div 4$

Disks

Algorithm

b. $755 \div 5$

Disks

Algorithm

c. $964 \div 4$

Disks

Algorithm

Name _____

Date _____

1. Divide. Check your work by multiplying. Draw disks on a place value chart as needed.

a. $574 \div 2$

b. $861 \div 3$

c. $354 \div 2$

d. $354 \div 3$

e. $873 \div 4$

f. $591 \div 5$

g. $275 \div 3$

h. $459 \div 5$

i. $678 \div 4$

j. $955 \div 4$

2. Zach filled 581 one-liter bottles with apple cider. He distributed the bottles to 4 stores. Each store received the same number of bottles. How many liter bottles did each of the stores receive? Were there any bottles left over? If so, how many?

Name _____

Date _____

1. Divide. Check your work by multiplying. Draw disks on a place value chart as needed.

a. $378 \div 2$

b. $795 \div 3$

c. $512 \div 4$

d. $492 \div 4$

e. $539 \div 3$

f. $862 \div 5$

g. $498 \div 3$

h. $783 \div 5$

i. $621 \div 4$

j. $531 \div 4$

2. Selena's dog completed an obstacle course that was 932 meters long. There were 4 parts to the course, all equal in length. How long was 1 part of the course?

Name _____

Date _____

1. Divide, and then check using multiplication.

a. $1,672 \div 4$

b. $1,578 \div 4$

c. $6,948 \div 2$

d. $8,949 \div 4$

e. $7,569 \div 2$

f. $7,569 \div 3$

g. $7,955 \div 5$

h. $7,574 \div 5$

i. $7,469 \div 3$

j. $9,956 \div 4$

2. There are twice as many cows as goats on a farm. All the cows and goats have a total of 1,116 legs. How many goats are there?

Name _____

Date _____

1. Divide, and then check using multiplication.

a. $2,464 \div 4$

b. $1,848 \div 3$

c. $9,426 \div 3$

d. $6,587 \div 2$

e. $5,445 \div 3$

f. $5,425 \div 2$

g. $8,467 \div 3$

h. $8,456 \div 3$

i. $4,937 \div 4$

j. $6,173 \div 5$

2. A truck has 4 crates of apples. Each crate has an equal number of apples. Altogether, the truck is carrying 1,728 apples. How many apples are in 3 crates?

Name _____

Date _____

Divide. Check your solutions by multiplying.

1. $204 \div 4$

2. $704 \div 3$

3. $627 \div 3$

4. $407 \div 2$

5. $760 \div 4$

6. $5,120 \div 4$

7. $3,070 \div 5$

8. $6,706 \div 5$

9. $8,313 \div 4$

10. $9,008 \div 3$

11. a. Find the quotient and remainder for $3,131 \div 3$.

b. How could you change the digit in the ones place of the whole so that there would be no remainder? Explain how you determined your answer.

Name _____

Date _____

Divide. Check your solutions by multiplying.

1. $409 \div 5$

2. $503 \div 2$

3. $831 \div 4$

4. $602 \div 3$

5. $720 \div 3$

6. $6,250 \div 5$

7. $2,060 \div 5$

8. $9,031 \div 2$

9. $6,218 \div 4$

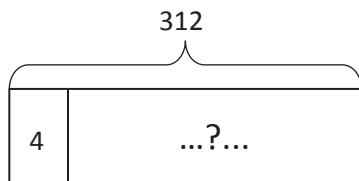
10. $8,000 \div 4$

Name _____

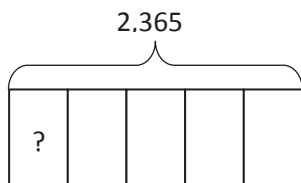
Date _____

Draw a tape diagram and solve. The first two tape diagrams have been drawn for you. Identify if the group size or the number of groups is unknown.

1. Monique needs exactly 4 plates on each table for the banquet. If she has 312 plates, how many tables is she able to prepare?



2. 2,365 books were donated to an elementary school. If 5 classrooms shared the books equally, how many books did each class receive?



3. If 1,503 kilograms of rice was packed in sacks weighing 3 kilograms each, how many sacks were packed?

4. Rita made 5 batches of cookies. There was a total of 2,400 cookies. If each batch contained the same number of cookies, how many cookies were in 4 batches?
5. Every day, Sarah drives the same distance to work and back home. If Sarah drove 1,005 miles in 5 days, how far did Sarah drive in 3 days?

4. A piece of ribbon 876 inches long was cut by a machine into 4-inch long strips to be made into bows. How many strips were cut?
5. Five Martians equally share 1,940 Groblarx fruits. How many Groblarx fruits will 3 of the Martians receive?

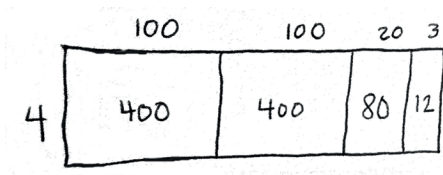
4. There were 904 children signed up for the relay race. If there were 6 children on each team, how many teams were made? The remaining children served as referees. How many children served as referees?
5. 1,188 kilograms of rice are divided into 7 sacks. How many kilograms of rice are in 6 sacks of rice? How many kilograms of rice remain?

4. A baker made 7 batches of muffins. There was a total of 252 muffins. If there was the same number of muffins in each batch, how many muffins were in a batch?
5. Samantha ran 3,003 meters in 7 days. If she ran the same distance each day, how far did Samantha run in 3 days?

Name _____

Date _____

1. Ursula solved the following division problem by drawing an area model.



- a. What division problem did she solve?
- b. Show a number bond to represent Ursula's area model, and represent the total length using the distributive property.

2. a. Solve $960 \div 4$ using the area model. There is no remainder in this problem.

- b. Draw a number bond and use the long division algorithm to record your work from Part (a).

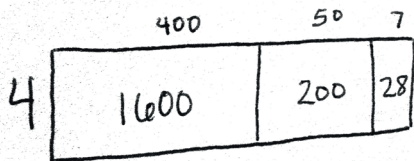
3. a. Draw an area model to solve $774 \div 3$.
- b. Draw a number bond to represent this problem.
- c. Record your work using the long division algorithm.

-
4. a. Draw an area model to solve $1,584 \div 2$.
- b. Draw a number bond to represent this problem.
- c. Record your work using the long division algorithm.

Name _____

Date _____

1. Arabelle solved the following division problem by drawing an area model.



- a. What division problem did she solve?
- b. Show a number bond to represent Arabelle's area model, and represent the total length using the distributive property.

2. a. Solve $816 \div 4$ using the area model. There is no remainder in this problem.

- b. Draw a number bond and use a written method to record your work from Part (a).

3. a. Draw an area model to solve $549 \div 3$.
- b. Draw a number bond to represent this problem.
- c. Record your work using the long division algorithm.

-
4. a. Draw an area model to solve $2,762 \div 2$.
- b. Draw a number bond to represent this problem.
- c. Record your work using the long division algorithm.

Name _____

Date _____

1. Use the associative property to rewrite each expression. Solve using disks, and then complete the number sentences.

a. 30×24

$$= (\quad \times 10) \times 24$$

$$= \quad \times (10 \times 24)$$

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

hundreds	tens	ones

b. 40×43

$$= (4 \times 10) \times \underline{\hspace{1cm}}$$

$$= 4 \times (10 \times \underline{\hspace{1cm}})$$

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

thousands	hundreds	tens	ones

c. 30×37

$$= (3 \times \underline{\hspace{1cm}}) \times \underline{\hspace{1cm}}$$

$$= 3 \times (10 \times \underline{\hspace{1cm}})$$

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

thousands	hundreds	tens	ones

Name _____

Date _____

1. Use the associative property to rewrite each expression. Solve using disks, and then complete the number sentences.

a. 20×34

$$= (\underline{\quad} \times 10) \times 34$$

$$= \underline{\quad} \times (10 \times 34)$$

$$= \underline{\quad}$$

hundreds	tens	ones

b. 30×34

$$= (3 \times 10) \times \underline{\quad}$$

$$= 3 \times (10 \times \underline{\quad})$$

$$= \underline{\quad}$$

thousands	hundreds	tens	ones

c. 30×42

$$= (3 \times \underline{\quad}) \times \underline{\quad}$$

$$= 3 \times (10 \times \underline{\quad})$$

$$= \underline{\quad}$$

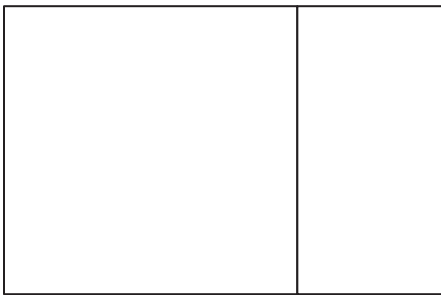
thousands	hundreds	tens	ones

Name _____

Date _____

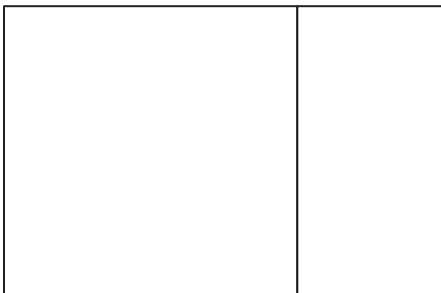
Use an area model to represent the following expressions. Then, record the partial products and solve.

1. 20×22



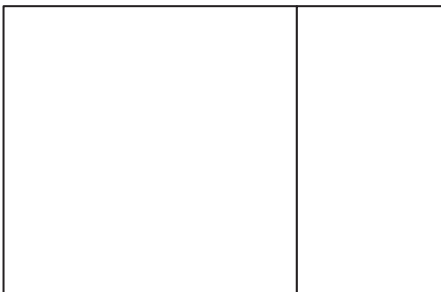
$$\begin{array}{r} 22 \\ \times 20 \\ \hline \\ + \\ \hline \end{array}$$

2. 50×41



$$\begin{array}{r} 41 \\ \times 50 \\ \hline \\ + \\ \hline \end{array}$$

3. 60×73



$$\begin{array}{r} 73 \\ \times 60 \\ \hline \\ + \\ \hline \end{array}$$

Draw an area model to represent the following expressions. Then, record the partial products vertically and solve.

4. 80×32

5. 70×54

Visualize the area model, and solve the following expressions numerically.

6. 30×68

7. 60×34

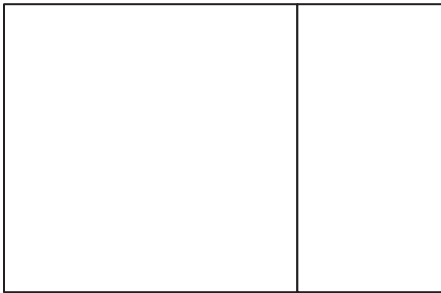
8. 40×55

9. 80×55

Name _____ Date _____

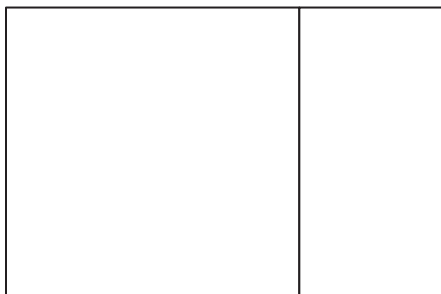
Use an area model to represent the following expressions. Then, record the partial products and solve.

1. 30×17



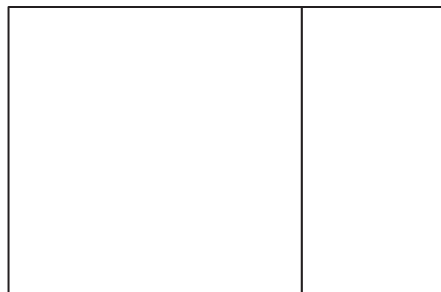
$$\begin{array}{r} 17 \\ \times 30 \\ \hline \\ + \\ \hline \end{array}$$

2. 40×58



$$\begin{array}{r} 58 \\ \times 40 \\ \hline \\ + \\ \hline \end{array}$$

3. 50×38



$$\begin{array}{r} 38 \\ \times 50 \\ \hline \\ + \\ \hline \end{array}$$

Draw an area model to represent the following expressions. Then, record the partial products vertically and solve.

4. 60×19

5. 20×44

Visualize the area model, and solve the following expressions numerically.

6. 20×88

7. 30×88

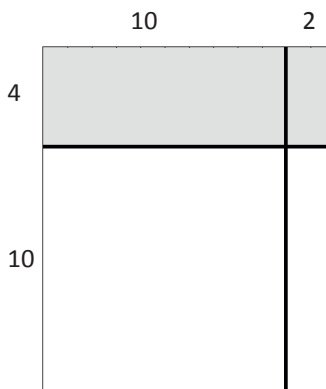
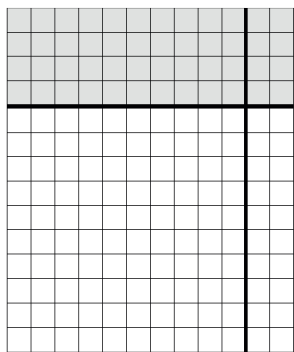
8. 70×47

9. 80×65

Name _____

Date _____

1. a. In each of the two models pictured below, write the expressions that determine the area of each of the four smaller rectangles.

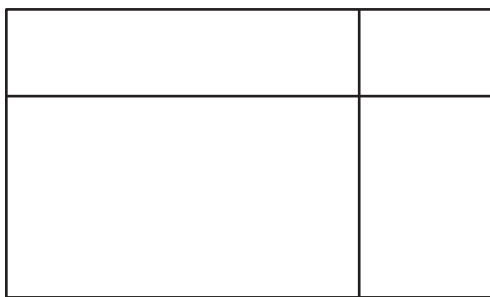


- b. Using the distributive property, rewrite the area of the large rectangle as the sum of the areas of the four smaller rectangles. Express first in number form, and then read in unit form.

$$14 \times 12 = (4 \times \underline{\quad}) + (4 \times \underline{\quad}) + (10 \times \underline{\quad}) + (10 \times \underline{\quad})$$

2. Use an area model to represent the following expression. Record the partial products and solve.

$$14 \times 22$$



$$\begin{array}{r} 22 \\ \times 14 \\ \hline \\ \hline \\ \hline \\ \hline \\ + \hline \end{array}$$

Draw an area model to represent the following expressions. Record the partial products vertically and solve.

3. 25×32

4. 35×42

Visualize the area model and solve the following numerically using four partial products. (You may sketch an area model if it helps.)

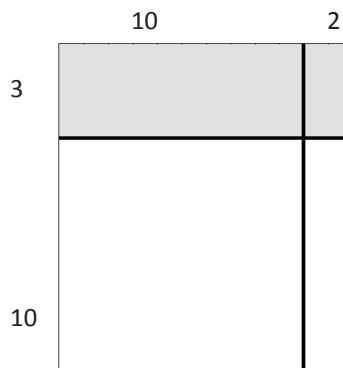
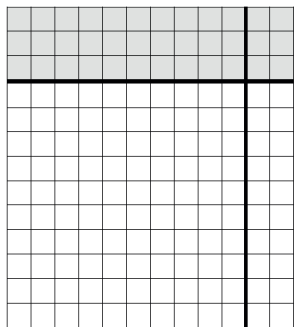
5. 42×11

6. 46×11

Name _____

Date _____

1. a. In each of the two models pictured below, write the expressions that determine the area of each of the four smaller rectangles.

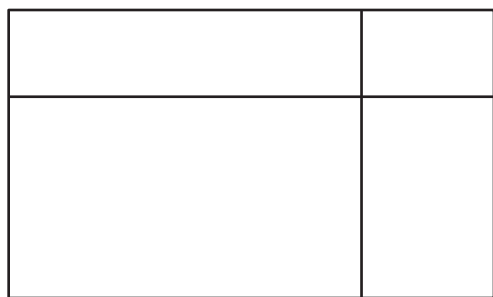


- b. Using the distributive property, rewrite the area of the large rectangle as the sum of the areas of the four smaller rectangles. Express first in number form, and then read in unit form.

$$13 \times 12 = (3 \times \underline{\quad}) + (3 \times \underline{\quad}) + (10 \times \underline{\quad}) + (10 \times \underline{\quad})$$

Use an area model to represent the following expression. Record the partial products and solve.

2. 17×34



$$\begin{array}{r}
 34 \\
 \times 17 \\
 \hline
 \\
 \\
 \\
 \\
 \\
 \hline

 \end{array}$$

Draw an area model to represent the following expressions. Record the partial products vertically and solve.

3. 45×18

4. 45×19

Visualize the area model and solve the following numerically using four partial products. (You may sketch an area model if it helps.)

5. 12×47

6. 23×93

7. 23×11

8. 23×22

Name _____

Date _____

1. Solve 14×12 using 4 partial products and 2 partial products. Remember to think in terms of units as you solve. Write an expression to find the area of each smaller rectangle in the area model.

<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p style="text-align: center;">10 2</p> </div> <div style="margin-right: 10px;"> $\begin{array}{r} 12 \\ \times 14 \\ \hline \\ \hline \\ \hline \\ \hline \end{array}$ </div> <div> <p><i>4 ones \times 2 ones</i></p> <hr style="width: 100%;"/> <p><i>4 ones \times 1 ten</i></p> <hr style="width: 100%;"/> <p><i>1 ten \times 2 ones</i></p> <hr style="width: 100%;"/> <p><i>1 ten \times 1 ten</i></p> <hr style="width: 100%;"/> </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p style="text-align: center;">12</p> </div> <div style="margin-right: 10px;"> $\begin{array}{r} 12 \\ \times 14 \\ \hline \\ \hline \end{array}$ </div> <div> <p><i>4 ones \times 12 ones</i></p> <hr style="width: 100%;"/> <p><i>1 ten \times 12 ones</i></p> <hr style="width: 100%;"/> </div> </div>
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2. Solve 32×43 using 4 partial products and 2 partial products. Match each partial product to its area on the models. Remember to think in terms of units as you solve.

<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p style="text-align: center;">40 3</p> </div> <div style="margin-right: 10px;"> $\begin{array}{r} 43 \\ \times 32 \\ \hline \\ \hline \\ \hline \\ \hline \end{array}$ </div> <div> <p><i>2 ones \times 3 ones</i></p> <hr style="width: 100%;"/> <p><i>2 ones \times 4 tens</i></p> <hr style="width: 100%;"/> <p><i>3 tens \times 3 ones</i></p> <hr style="width: 100%;"/> <p><i>3 tens \times 4 tens</i></p> <hr style="width: 100%;"/> </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p style="text-align: center;">43</p> </div> <div style="margin-right: 10px;"> $\begin{array}{r} 43 \\ \times 32 \\ \hline \\ \hline \end{array}$ </div> <div> <p><i>2 ones \times 43 ones</i></p> <hr style="width: 100%;"/> <p><i>3 tens \times 43 ones</i></p> <hr style="width: 100%;"/> </div> </div>
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3. Solve 57×15 using 2 partial products. Match each partial product to its rectangle on the area model.

4. Solve the following using 2 partial products. Visualize the area model to help you.

a. 25

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

$$\underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad}$$

b. 18

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

$$\underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad}$$

c. 39

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

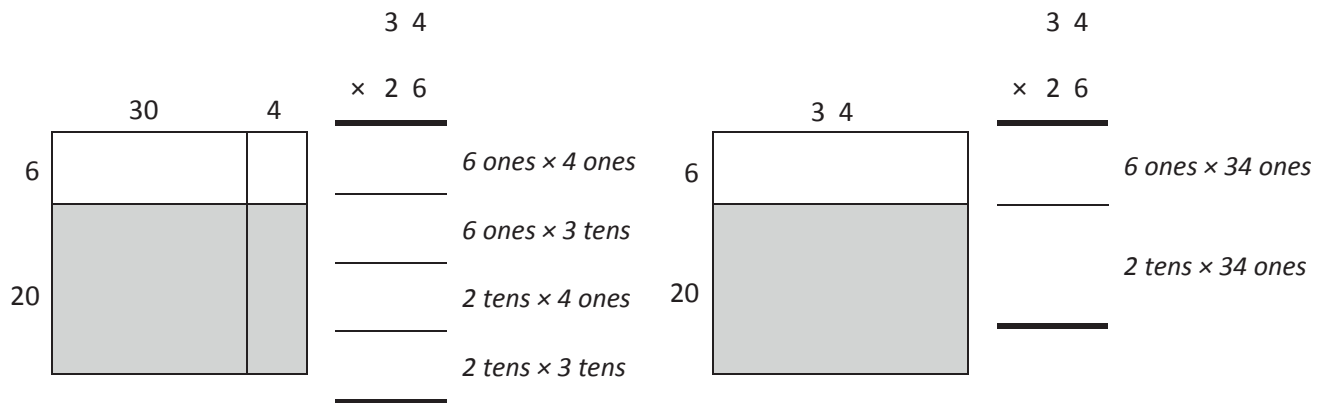
d. 78

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

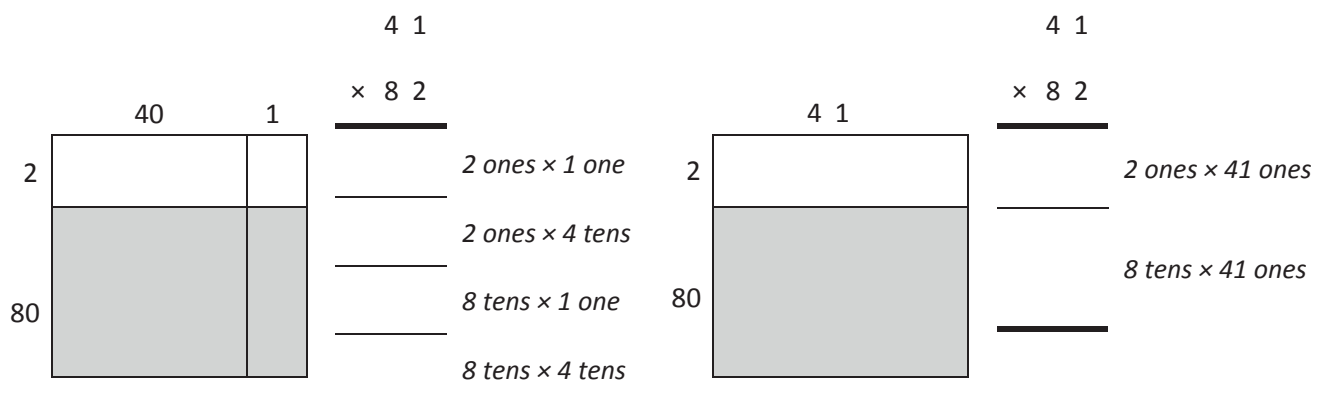
Name _____

Date _____

1. Solve 26×34 using 4 partial products and 2 partial products. Remember to think in terms of units as you solve. Write an expression to find the area of each smaller rectangle in the area model.



2. Solve using 4 partial products and 2 partial products. Remember to think in terms of units as you solve. Write an expression to find the area of each smaller rectangle in the area model.



3. Solve 52×26 using 2 partial products and an area model. Match each partial product to its area on the model.

4. Solve the following using 2 partial products. Visualize the area model to help you.

a. 68

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

$$\underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad}$$

b. 49

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

$$\underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad}$$

c. 16

$$\begin{array}{r} \times 25 \\ \hline \end{array}$$

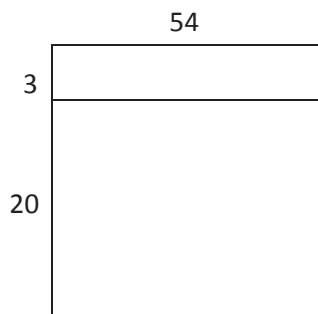
d. 54

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

Name _____

Date _____

1. Express 23×54 as two partial products using the distributive property. Solve.

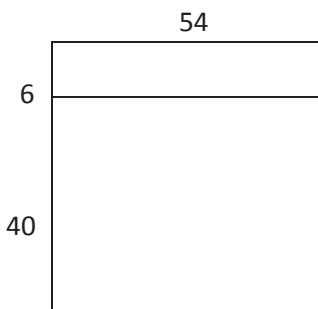


$23 \times 54 = (\underline{\quad} \text{ fifty-fours}) + (\underline{\quad} \text{ fifty-fours})$

$$\begin{array}{r} 54 \\ \times 23 \\ \hline \\ \hline \end{array}$$

$3 \times \underline{\quad}$
 $20 \times \underline{\quad}$

2. Express 46×54 as two partial products using the distributive property. Solve.

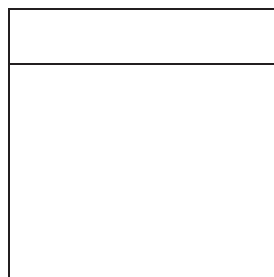


$46 \times 54 = (\underline{\quad} \text{ fifty-fours}) + (\underline{\quad} \text{ fifty-fours})$

$$\begin{array}{r} 54 \\ \times 46 \\ \hline \\ \hline \end{array}$$

$\underline{\quad} \times \underline{\quad}$
 $\underline{\quad} \times \underline{\quad}$

3. Express 55×47 as two partial products using the distributive property. Solve.



$55 \times 47 = (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$

$$\begin{array}{r} 47 \\ \times 55 \\ \hline \\ \hline \end{array}$$

$\underline{\quad} \times \underline{\quad}$
 $\underline{\quad} \times \underline{\quad}$

4. Solve the following using 2 partial products.

$$\begin{array}{r} 58 \\ \times 45 \\ \hline \end{array}$$

_____ × _____

_____ × _____

5. Solve using the multiplication algorithm.

$$\begin{array}{r} 82 \\ \times 55 \\ \hline \end{array}$$

_____ × _____

_____ × _____

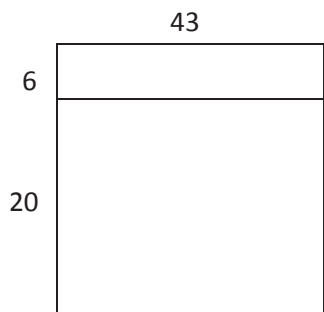
6. 53×63

7. 84×73

Name _____

Date _____

1. Express 26×43 as two partial products using the distributive property. Solve.

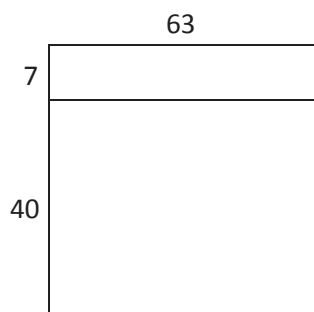


$26 \times 43 = (\text{___} \text{ forty-threes}) + (\text{___} \text{ forty-threes})$

$$\begin{array}{r} 43 \\ \times 26 \\ \hline \\ \hline \end{array}$$

$6 \times \text{___}$
 $20 \times \text{___}$

2. Express 47×63 as two partial products using the distributive property. Solve.



$47 \times 63 = (\text{___} \text{ sixty-threes}) + (\text{___} \text{ sixty-threes})$

$$\begin{array}{r} 63 \\ \times 47 \\ \hline \\ \hline \end{array}$$

$\text{___} \times \text{___}$
 $\text{___} \times \text{___}$

3. Express 54×67 as two partial products using the distributive property. Solve.



$54 \times 67 = (\text{___} \times \text{___}) + (\text{___} \times \text{___})$

$$\begin{array}{r} 67 \\ \times 54 \\ \hline \\ \hline \end{array}$$

$\text{___} \times \text{___}$
 $\text{___} \times \text{___}$

4. Solve the following using two partial products.

$$\begin{array}{r}
 52 \\
 \times 34 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \\
 \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \\
 \hline
 \end{array}$$

5. Solve using the multiplication algorithm.

$$\begin{array}{r}
 86 \\
 \times 56 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \\
 \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \\
 \hline
 \end{array}$$

6. 54×52

7. 44×76

8. 63×63

9. 68×79