

Vocabulary

partial products A method of multiplying in which the ones, tens, hundreds, and so on are multiplied separately and then the products are added together

Dear Family,

During the next few weeks, our math class will be learning about multiplying by 1-digit whole numbers. We will investigate strategies for solving multiplication of 2-, 3-, and 4-digit numbers by the numbers 0–9.

You can expect to see homework that provides practice with multiplication by 1-digit numbers.

Here is a sample of how your child will be taught to multiply by a 1-digit number.

MODEL Multiply by a One-Digit Number

This is one way we will be multiplying by one-digit numbers.

STEP 1

Multiply the tens.
Record.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \end{array} \leftarrow 3 \times 2 \text{ tens} \\ = 6 \text{ tens}$$

STEP 2

Multiply the ones.
Record.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \\ 18 \end{array} \leftarrow 3 \times 6 \text{ ones} \\ = 18 \text{ ones}$$

STEP 3

Add the partial products.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \\ + 18 \\ \hline 78 \end{array}$$

Tips

Estimating to Check Multiplication

When estimation is used to check that a multiplication answer is reasonable, usually the greater factor is rounded to a multiple of 10 that has only one non-zero digit. Then mental math can be used to recall the basic fact product, and patterns can be used to determine the correct number of zeros in the estimate.

Carta para la casa

Vocabulario

productos parciales Un método de multiplicación en el cual las unidades, las decenas, las centenas y así sucesivamente, se multiplican por separado, y después se suman sus productos.

Querida familia,

Durante las próximas semanas, en la clase de matemáticas aprenderemos a multiplicar números enteros de un dígito. Investigaremos estrategias para resolver problemas con números de 2, 3 y 4 dígitos multiplicados por números del 0 al 9.

Llevaré a la casa tareas para practicar la multiplicación de números de 1 dígito.

Este es un ejemplo de la manera como aprenderemos a multiplicar por un número de 1 dígito.

MODELO Multiplicar por un número de un dígito

Esta es una manera en la que multiplicaremos por un número de un dígito.

PASO 1

Multiplica las decenas.

Anota.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \end{array} \leftarrow 3 \times 2 \text{ decenas} \\ = 6 \text{ decenas}$$

PASO 2

Multiplica las unidades.

Anota.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \\ 18 \end{array} \leftarrow 3 \times 6 \text{ unidades} \\ = 18 \text{ unidades}$$

PASO 3

Suma los productos parciales.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline 60 \\ + 18 \\ \hline 78 \end{array}$$

Pistas

Estimar para revisar la multiplicación

Cuando se usa la estimación para revisar que la respuesta de una multiplicación es razonable, el factor se suele redondear al múltiplo de 10 que tiene un solo dígito distinto a cero. Después se puede usar el cálculo mental para recordar el producto básico de la operación, y se pueden usar patrones para determinar la cantidad correcta de ceros de la estimación.

Name _____

Multiply Multiples of 10, 100, and 1,000



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Use mental math to complete the pattern.

1. $6 \times 3 = 18$

$6 \times 30 = \underline{180}$

$6 \times 300 = \underline{1,800}$

$6 \times 3,000 = \underline{18,000}$

2. $4 \times 7 = 28$

$4 \times 70 = \underline{\hspace{2cm}}$

$4 \times 700 = \underline{\hspace{2cm}}$

$4 \times 7,000 = \underline{\hspace{2cm}}$

3. $8 \times 5 = 40$

$8 \times 50 = \underline{\hspace{2cm}}$

$8 \times 500 = \underline{\hspace{2cm}}$

$8 \times 5,000 = \underline{\hspace{2cm}}$

4. $3 \times 9 = 27$

$3 \times 90 = \underline{\hspace{2cm}}$

$3 \times 900 = \underline{\hspace{2cm}}$

$3 \times 9,000 = \underline{\hspace{2cm}}$

5. $7 \times 8 = 56$

$7 \times 80 = \underline{\hspace{2cm}}$

$7 \times 800 = \underline{\hspace{2cm}}$

$7 \times 8,000 = \underline{\hspace{2cm}}$

6. $5 \times 9 = 45$

$5 \times 90 = \underline{\hspace{2cm}}$

$5 \times 900 = \underline{\hspace{2cm}}$

$5 \times 9,000 = \underline{\hspace{2cm}}$

7. $5 \times 3 = 15$

$5 \times 30 = \underline{\hspace{2cm}}$

$5 \times 300 = \underline{\hspace{2cm}}$

$5 \times 3,000 = \underline{\hspace{2cm}}$

8. $4 \times 4 = 16$

$4 \times 40 = \underline{\hspace{2cm}}$

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

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

9. $8 \times 8 = 64$

$8 \times 80 = \underline{\hspace{2cm}}$

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

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

Problem Solving

10. Gino is cooking a chicken casserole for a potluck dinner. Each serving has 400 calories. If the casserole contains 8 servings, how many total calories are in the casserole?

11. Kim's fourth-grade class held a fundraiser every week for 5 weeks. They made \$400 each of the first 2 weeks and \$500 each of the last 3 weeks. How much money did the fourth-grade class make after 5 weeks?

Lesson Check (MA.4.A.1.2)


- Daniel has 9 pages of stamps he has collected. Each page holds 40 stamps. How many stamps does Daniel have in all?
 - (A) 3,600
 - (B) 360
 - (C) 49
 - (D) 36
- Golfland rented about 400 putters each day during the first seven days of July. It rented about 300 putters each day during the next seven days. How many total putters did Golfland rent during the first 14 days of July?
 - (F) 700
 - (G) 2,100
 - (H) 2,800
 - (I) 4,900

Review Grade 4 (MA.4.A.4.2)

- Which of the following represents the Commutative Property of Multiplication?
 - (A) $4 \times 9 = 9 \times 4$
 - (B) $3 \times 0 = 0$
 - (C) $8 \times 1 = 8$
 - (D) $(2 + 3) + 5 = 2 + (3 + 5)$
- Beth is decorating for a dinner party. There are 6 tables to decorate. Each table has 2 vases in the center. Beth needs to put 3 lilies in each vase. How many lilies will Beth need in all?
 - (F) 6
 - (G) 12
 - (H) 18
 - (I) 36



Look Back (MA.3.A.1.2, MA.4.A.1.2)

- Bob has 9 comic books. Steve has 3 times as many comic books as Bob. How many comic books does Steve have?
 - (A) 6
 - (B) 12
 - (C) 27
 - (D) 30
- What number does the  represent in the number sentence?

$$6 \times \triangle = 6$$
 - (F) 0
 - (G) 1
 - (H) 2
 - (I) 6



Name _____

Estimate Products



MA.4.A.6.6 Estimate and describe reasonableness of estimates; determine the appropriateness of an estimate versus an exact answer.

Estimate the product by rounding the greater factor.

1. 4×472

4×472



4×500

2,000

2. $2 \times 6,254$

3. 9×54

4. $5 \times 5,503$

5. 3×832

6. 6×98

7. $8 \times 3,250$

8. 7×777

Find two numbers the answer is between.

9. 3×567

10. $6 \times 7,381$

11. 4×94

12. 8×684

Problem Solving



13. Isaac drinks 8 glasses of water each day. About how many glasses of water does Isaac drink in a year if a year has 365 days?


14. Most Americans throw away about 1,365 pounds of trash each year. Is it reasonable to estimate that Americans throw away over 10,000 pounds of trash in 5 years? Explain.

Lesson Check (MA.4.A.6.6)

- A theater has 4,650 seats. If the theater sells all the tickets for each of its 5 shows, about how many tickets will it sell in all?
 - (A) 2,500
 - (B) 10,000
 - (C) 25,000
 - (D) 30,000
- Washington Elementary has 4,358 students. Jefferson High School has three times as many students as Washington Elementary. About how many students does Jefferson High School have?
 - (F) 16,000
 - (G) 12,000
 - (H) 10,000
 - (I) 1,200

Review Grade 4 (MA.4.A.4.2)

- Cara plants 8 pumpkin seeds in each of 4 rows. Six of the seeds do not grow. Which expression represents this situation?
 - (A) $(8 \times 4) - 6$
 - (B) $(6 \times 4) - 8$
 - (C) $(8 \times 6) - 4$
 - (D) $(8 - 4) \times 6$
- Which of the following does the picture represent?



 - (F) 9 groups of 3 dimes
 - (G) 3 groups of 9 dimes
 - (H) 3 more than 9 dimes
 - (I) 9 dimes shared among 3 friends



Look Back (MA.3.A.6.1, MA.4.A.6.6)

- Florida has a land area of 53,926 square miles. It has a total water area of 11,827 square miles. Which of the following is the best estimate of Florida's total area in square miles, including land and water?
 - (A) 50,000 square miles
 - (B) 54,000 square miles
 - (C) 60,000 square miles
 - (D) 70,000 square miles
- The table shows the types of DVDs customers rented from Sunshine Movie Rentals last year.

Movie Rentals	
Type	Number Rented
Comedy	6,720
Drama	4,032
Action	5,540



About how many comedy and action movies were rented in all last year?

- (F) 17,000
- (G) 13,000
- (H) 11,000
- (I) 10,000

Name _____

Model 2-Digit by 1-Digit Multiplication

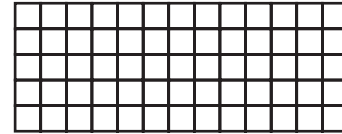
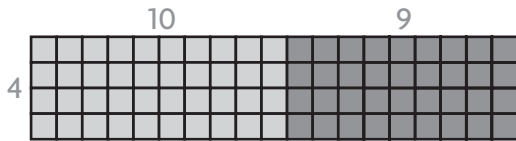


MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Model the product on the grid. Record the product.

1. $4 \times 19 = \underline{76}$

2. $5 \times 13 = \underline{\quad}$



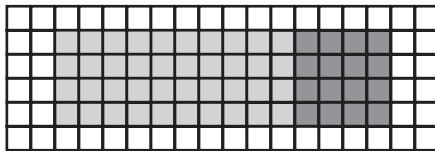
$4 \times 10 = 40$

$4 \times 9 = 36$

$40 + 36 = 76$

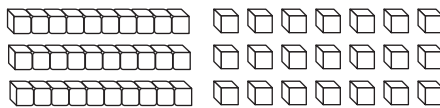
Find the product.

3.



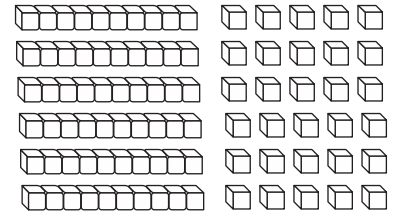
$4 \times 14 = \underline{\quad}$

4.



$3 \times 17 = \underline{\quad}$

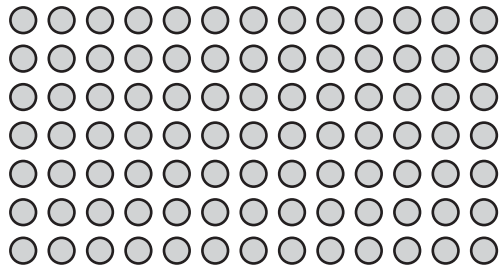
5.



$6 \times 15 = \underline{\quad}$

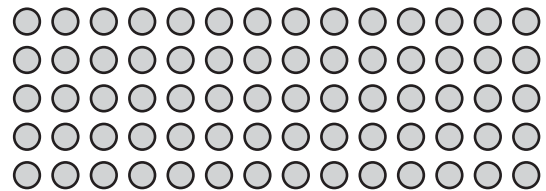
Problem Solving **REAL WORLD**

6. Michael arranged his pennies in the following array.



How many pennies does Michael have in all?

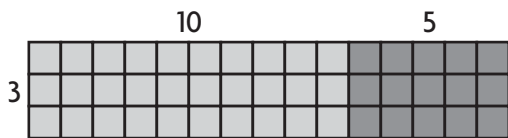
7. A farmer has an apple orchard with the trees arranged in an array like below.



If the farmer wants to pick one apple from each tree, how many apples will he pick?

Lesson Check (MA.4.A.1.2)

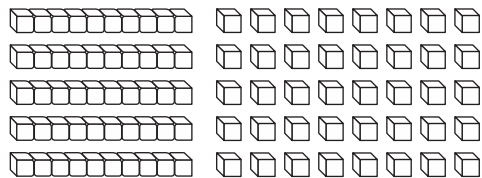
1. The model shows how Maya planted flowers in her garden.



How many flowers did Maya plant?

- (A) 15
- (B) 18
- (C) 30
- (D) 45

2. The model below represents the expression 5×18 .



How many tens will there be in the final product?

- (F) 5
- (G) 6
- (H) 8
- (I) 9

Review Grade 4 (MA.4.A.4.2)

3. Meg has some dolls. Rita has 3 more dolls than Meg. If d represents the number of dolls Meg has, which expression shows the number of dolls Rita has?

- (A) $d - 3$
- (B) $d + 3$
- (C) $d \times 3$
- (D) $d \div 3$

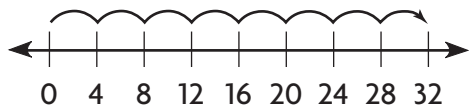
4. Jack read 4 times as many pages as Ivana this week. Let p equal the number of pages Ivana read. Which expression shows the number of pages Jack read?

- (F) $4 - p$
- (G) $4 + p$
- (H) $4 \times p$
- (I) $4 \div p$



Look Back (MA.3.A.1.1, MA.4.A.1.2)

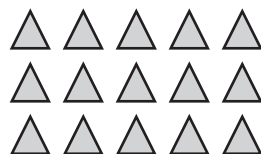
5. Look at the number line below.



Which expression is modeled by the number line?

- (A) $8 \div 4$
- (B) $32 \div 8$
- (C) 4×32
- (D) 8×4

6. Which expression and product is modeled by the array below?



- (F) $3 \times 5; 15$
- (G) $9 \times 5; 45$
- (H) $6 \times 5; 30$
- (I) $2 \times 5; 10$



Name _____

Record 2-Digit by 1-Digit Multiplication



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Estimate. Then record the product.

1. Estimate: 160

$$\begin{array}{r} 38 \\ \times 4 \\ \hline 120 \\ +32 \\ \hline 152 \end{array}$$

2. Estimate: _____

$$\begin{array}{r} 27 \\ \times 5 \\ \hline \end{array}$$

3. Estimate: _____

$$\begin{array}{r} \$61 \\ \times 8 \\ \hline \end{array}$$

4. Estimate: _____

$$\begin{array}{r} 57 \\ \times 3 \\ \hline \end{array}$$

5. Estimate: _____

$$\begin{array}{r} \$44 \\ \times 9 \\ \hline \end{array}$$

6. Estimate: _____

$$\begin{array}{r} 72 \\ \times 6 \\ \hline \end{array}$$

7. Estimate: _____

$$\begin{array}{r} 95 \\ \times 8 \\ \hline \end{array}$$

8. Estimate: _____

$$\begin{array}{r} 48 \\ \times 7 \\ \hline \end{array}$$

9. Estimate: _____

$$\begin{array}{r} 37 \\ \times 6 \\ \hline \end{array}$$

10. Estimate: _____

$$\begin{array}{r} 88 \\ \times 3 \\ \hline \end{array}$$

11. Estimate: _____

$$\begin{array}{r} \$74 \\ \times 5 \\ \hline \end{array}$$

Problem Solving

12. A children's ticket to an amusement park costs \$36. An adult ticket costs \$42. How much do 2 adult tickets and 3 children's tickets cost?

13. Zoe runs 28 miles each week to train for a marathon. How many miles does she run in four weeks?

Lesson Check (MA.4.A.1.2)

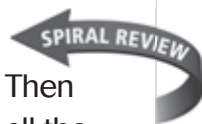
- A store received a shipment of 8 crates with 36 cans in each crate. How many cans were there in all?
 - (A) 248
 - (B) 288
 - (C) 320
 - (D) 400
- A banquet hall has 54 tables. Each table has 6 chairs. How many chairs are there in all?
 - (F) 300
 - (G) 304
 - (H) 324
 - (I) 360

Review Grade 4 (MA.4.A.4.2)

- Kim makes 12 bracelets. Then she makes b more bracelets. She gives 3 bracelets away. Which expression shows how many bracelets Kim has left?
 - (A) $12 \times (b - 3)$
 - (B) $(12 + b) - 3$
 - (C) $12 + b + 3$
 - (D) $12 - b - 3$
- John bakes some loaves of bread. Then he bakes 2 more loaves and gives all the loaves away equally to 4 families. In order to represent how many loaves each family gets, which sign is needed in the blank in the expression below?

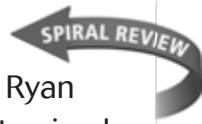
$(b + 2) \bigcirc 4$

 - (F) +
 - (G) -
 - (H) \times
 - (I) \div



Look Back (MA.3.A.1.1, MA.4.A.1.2)

- What is 9×8 ?
 - (A) 64
 - (B) 72
 - (C) 79
 - (D) 81
- Corinne has 7 books on animals. Ryan has 3 times as many books about animals as Corinne. How many books about animals does Ryan have?
 - (F) 10
 - (G) 14
 - (H) 21
 - (I) 24



Name _____

Multiply 2-Digit Numbers

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Estimate. Then record the product.

1. Estimate: **150**

$$\begin{array}{r} 1 \\ 46 \\ \times 3 \\ \hline 138 \end{array}$$

2. Estimate: _____

$$\begin{array}{r} 32 \\ \times 8 \\ \hline \end{array}$$

3. Estimate: _____

$$\begin{array}{r} \$55 \\ \times 2 \\ \hline \end{array}$$

4. Estimate: _____

$$\begin{array}{r} 61 \\ \times 8 \\ \hline \end{array}$$

5. Estimate: _____

$$\begin{array}{r} 37 \\ \times 9 \\ \hline \end{array}$$

6. Estimate: _____

$$\begin{array}{r} \$18 \\ \times 7 \\ \hline \end{array}$$

7. Estimate: _____

$$\begin{array}{r} 83 \\ \times 5 \\ \hline \end{array}$$

8. Estimate: _____

$$\begin{array}{r} 95 \\ \times 8 \\ \hline \end{array}$$

9. Estimate: _____

$$\begin{array}{r} 94 \\ \times 9 \\ \hline \end{array}$$

10. Estimate: _____

$$\begin{array}{r} 57 \\ \times 6 \\ \hline \end{array}$$

11. Estimate: _____

$$\begin{array}{r} 72 \\ \times 3 \\ \hline \end{array}$$

12. Estimate: _____

$$\begin{array}{r} \$79 \\ \times 8 \\ \hline \end{array}$$

Problem Solving

13. Sharon is 54 inches tall. A tree in her backyard is 5 times as tall as she is. The floor of her treehouse is at a height that is twice as tall as she is. What is the difference, in inches, between the top of the tree and the floor of the treehouse?

14. Mr. Diaz's class is taking a field trip to the science museum. There are 23 students in the class, and a student admission ticket is \$8. How much will the student tickets cost?

Lesson Check (MA.4.A.1.2)

- A ferry boat makes two roundtrips from the mainland to an island each day. The ferry can hold 88 people. If the ferry is full on each trip, how many passengers are carried by the ferry each day?
 - (A) 176
 - (B) 322
 - (C) 332
 - (D) 352
- Julian counted the number of times he drove across the Seven Mile Bridge while vacationing in the Florida Keys. He crossed the bridge 34 times. How many miles in all did Julian drive crossing the bridge?
 - (F) 328 miles
 - (G) 248 miles
 - (H) 238 miles
 - (I) 218 miles

Review Grade 4 (MA.4.A.4.1)

- What is a possible rule for the following pattern of numbers?
42, 35, 28, 21, 14
 - (A) Add 7.
 - (B) Subtract 7.
 - (C) Divide by 7.
 - (D) Subtract 8.
- Which two numbers come next in the pattern?
4, 5, 10, 11, 22, 23, ■, ■
 - (F) 46, 92
 - (G) 46, 47
 - (H) 24, 48
 - (I) 24, 25



SPIRAL REVIEW

Look Back (MA.3.A.1.1, MA.4.A.1.2)

- Tori buys 7 packages of miniature racing cars. Each package has 5 cars. How many miniature racing cars does Tori buy?
 - (A) 25
 - (B) 30
 - (C) 35
 - (D) 40
- Ashley made 3 batches of cookies. She used 3 eggs in each batch. How many eggs did Ashley use in all?
 - (F) 6
 - (G) 9
 - (H) 12
 - (I) 18



SPIRAL REVIEW

Name _____

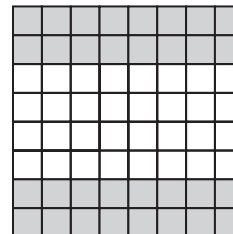
**Draw a Diagram · Multiply
2-Digit Numbers**



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm and checking for reasonableness of results, including solving real-world problems.

Solve each problem.

1. A community park has 6 tables with a chessboard painted on top. Each board has 64 squares. When the game is set up, 32 squares on each board are covered with chess pieces. If a game was set up on each table, how many total squares would NOT be covered by chess pieces?



$$4 \times 8 = 32$$

$$32 \times 6 = \square$$

192 squares

2. Jonah and his friends go apple picking. Jonah fills 5 baskets. Each basket holds 15 apples. If 4 of Jonah's friends pick the same amount, how many apples do Jonah and his friends pick in all? Draw a diagram to solve the problem.

3. Mrs. Garrett ordered 32 pizzas for a fourth-grade party. Each pizza had 8 slices. If each of the 8 fourth-grade teachers eats two slices of pizza, how many slices of pizza will be left for the students?



Lesson Check (MA.4.A.1.2)

- The students in Mr. Cooper's P.E. class participate in a 3-mile walk. There are 41 students in the P.E. class. If each student walks 3 miles, how many miles will the students walk in all?
 (A) 33 miles (C) 82 miles
 (B) 44 miles (D) 123 miles
- Ron is tiling a countertop. He needs to place 54 square tiles in each of 8 rows to cover the counter. He wants to randomly place 8 groups of four blue tiles each and have the rest of the tiles be white. How many white tiles will Ron need?
 (F) 464 (H) 400
 (G) 432 (I) 32

Review Grade 4 (MA.4.A.4.1)

Use the pattern below for problems 3 and 4.

6, 12, 18, 24, , 

- What is a rule for the pattern?
 (A) Multiply by 2.
 (B) Add 6.
 (C) Subtract 6.
 (D) Divide by 2.
- What are the next two numbers in the pattern?
 (F) 18, 12
 (G) 12, 6
 (H) 30, 36
 (I) 48, 96

Look Back (MA.3.A.1.1, MA.4.A.1.2)

- Terrence plants a garden that has 8 rows of flowers, with 8 flowers in each row. How many flowers did Terrence plant?
 (A) 64 (C) 40
 (B) 48 (D) 16
- Lea buys 7 model cars that each cost \$9. She also buys 6 bottles of paint that each cost \$3. How much did Lea spend in all?
 (F) \$81 (H) \$25
 (G) \$63 (I) \$18



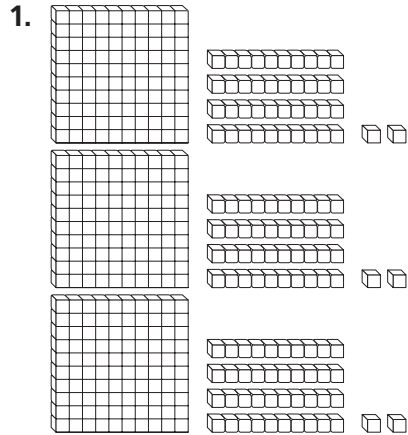
Name _____

Model 3-Digit by 1-Digit Multiplication



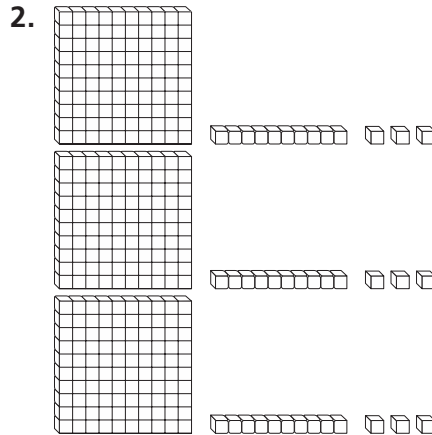
MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithm and checking for reasonableness of results, including solving real-world problems.

Find the product.

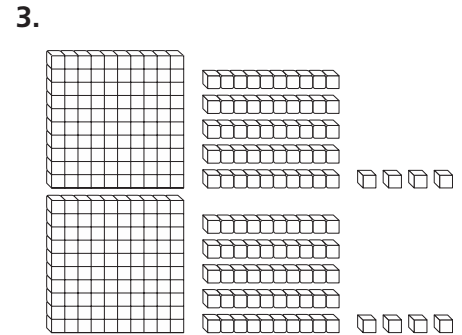


$$3 \times 142$$

426



$$3 \times 113$$



$$2 \times 154$$

Use base-ten blocks to model the product. Draw a quick picture to show your work. Record the product.

4. $3 \times 322 =$ _____

5. $2 \times 452 =$ _____

Problem Solving REAL WORLD

6. Cade lives 176 miles away from his grandparents. He lives 3 times as far away from his cousins. How far away do Cade's cousins live from him?

7. Tickets to a charity dinner and dance sell for \$215. If 8 guests can sit at one of the tables, how much money is raised for the charity through ticket sales for each full table of guests?

Lesson Check (MA.4.A.1.2)

- Danielle's family drove 215 miles each day for 7 days while on vacation. How many miles did the family drive in all?

(A) 14,735 miles (C) 1,475 miles
(B) 1,505 miles (D) 1,405 miles
- There are 492 runners in a 5-kilometer race. Each runner will get 5 cups of water during the race. How many cups of water are needed for all the runners?

(F) 20,450 (H) 2,450
(G) 2,460 (I) 2,050

Review Grade 4 (MA.4.A.4.3)

- Which rule works for the table?

Input	x	3	4	7	8
Output	y	13	16	25	28

- (A) Multiply y by 3 and then add 4.
 (B) Multiply x by 2, and then add 7.
 (C) Multiply x by 3, and then add 4.
 (D) Multiply x by 4, and then add 1.

- Which input/output table fits the rule, multiply x by 2, and then subtract 1?

(F)

Input	x	2	4	6	8
Output	y	1	3	5	7

(G)

Input	x	3	4	5	6
Output	y	5	6	7	8

(H)

Input	x	1	3	5	7
Output	y	2	8	14	20

(I)

Input	x	3	4	5	6
Output	y	5	7	9	11

Look Back (MA.3.A.1.1, MA.4.A.1.2)

- Ms. Fisher purchased 9 boxes of microwave popcorn. Each box had 3 bags of popcorn. How many bags of popcorn did Ms. Fisher buy?

(A) 3
(B) 12
(C) 18
(D) 27
- Tim goes to a farm and counts the legs on 9 horses, 8 cows, and 6 ducks. How many legs will Tim count in all?

(F) 92
(G) 80
(H) 72
(I) 23



Name _____

Record 3-Digit by 1-Digit Multiplication

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Estimate. Then record the product.

1. Estimate: **2,100**

$$\begin{array}{r} ^2 ^1 \\ 332 \\ \times 7 \\ \hline 2,324 \end{array}$$
2. Estimate: _____

$$\begin{array}{r} 642 \\ \times 3 \\ \hline \end{array}$$
3. Estimate: _____

$$\begin{array}{r} \$149 \\ \times 5 \\ \hline \end{array}$$
4. Estimate: _____

$$\begin{array}{r} 721 \\ \times 8 \\ \hline \end{array}$$

5. Estimate: _____

$$\begin{array}{r} 293 \\ \times 4 \\ \hline \end{array}$$
6. Estimate: _____

$$\begin{array}{r} \$416 \\ \times 6 \\ \hline \end{array}$$
7. Estimate: _____

$$\begin{array}{r} 961 \\ \times 2 \\ \hline \end{array}$$
8. Estimate: _____

$$\begin{array}{r} 837 \\ \times 9 \\ \hline \end{array}$$

9. Estimate: _____

$$\begin{array}{r} 652 \\ \times 4 \\ \hline \end{array}$$
10. Estimate: _____

$$\begin{array}{r} 307 \\ \times 3 \\ \hline \end{array}$$
11. Estimate: _____

$$\begin{array}{r} 543 \\ \times 7 \\ \hline \end{array}$$
12. Estimate: _____

$$\begin{array}{r} \$822 \\ \times 5 \\ \hline \end{array}$$

Problem Solving 

13. A maze at a county fair is made from 275 bales of hay. The maze at the state fair is made from 4 times as many bales of hay. How many bales of hay are used for the maze at the state fair?

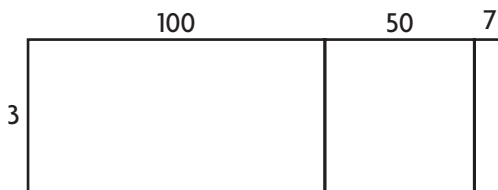
14. Pedro gets 8 hours of sleep each night. How many hours does Pedro sleep in a year with 365 days?

Lesson Check (MA.4.A.1.2)

1. Which expression shows how to multiply 6×214 by using place value and expanded form?

- (A) $(6 \times 2) + (6 \times 1) + (6 \times 4)$
- (B) $(6 \times 200) + (6 \times 100) + (6 \times 400)$
- (C) $(6 \times 200) + (6 \times 10) + (6 \times 40)$
- (D) $(6 \times 200) + (6 \times 10) + (6 \times 4)$

2. Use the model to find 3×157 .



- (F) 300,171
- (G) 300,157
- (H) 471
- (I) 451

Review Grade 4 (MA.4.A.4.2)

3. Which expression describes the model?



- (A) $n - 5$
- (B) $n + 5$
- (C) $4n$
- (D) $n \div 5$

4. Gavin is 9 inches taller than Brenda. Let b represent Brenda's height in inches. Which expression shows Gavin's height in inches?

- (F) $b - 4$
- (G) $b + 9$
- (H) $b \times 9$
- (I) $9 - b$



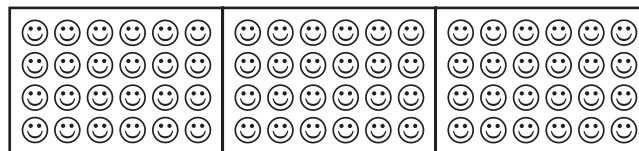
Look Back (MA.3.A.1.1, MA.4.A.1.2)

5. Which number does the \blacksquare represent in the number sentence below?

$$\blacksquare \times 4 = 36$$

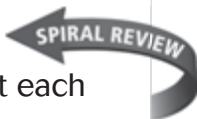
- (A) 0
- (B) 1
- (C) 9
- (D) 10

6. Alison buys sheets of stickers that each have 4 rows of 6 stickers. She lays 3 sheets end to end.



How many stickers are there in all on the three sheets?

- (F) 24
- (G) 36
- (H) 40
- (I) 72



Name _____

Multiply 3-Digit and 4-Digit Numbers

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Estimate. Then record the product.

1. Estimate: **4,000**
- $$\begin{array}{r} \overset{1}{1},\overset{2}{4}\overset{2}{6}7 \\ \times \quad 4 \\ \hline 5,868 \end{array}$$
2. Estimate: _____
- $$\begin{array}{r} 5,339 \\ \times \quad 6 \\ \hline \end{array}$$
3. Estimate: _____
- $$\begin{array}{r} \$879 \\ \times \quad 8 \\ \hline \end{array}$$
4. Estimate: _____
- $$\begin{array}{r} 3,182 \\ \times \quad 5 \\ \hline \end{array}$$

5. Estimate: _____
- $$\begin{array}{r} 4,616 \\ \times \quad 3 \\ \hline \end{array}$$
6. Estimate: _____
- $$\begin{array}{r} \$2,854 \\ \times \quad 9 \\ \hline \end{array}$$
7. Estimate: _____
- $$\begin{array}{r} 7,523 \\ \times \quad 2 \\ \hline \end{array}$$
8. Estimate: _____
- $$\begin{array}{r} 948 \\ \times \quad 7 \\ \hline \end{array}$$

9. Estimate: _____
- $$\begin{array}{r} 1,752 \\ \times \quad 6 \\ \hline \end{array}$$
10. Estimate: _____
- $$\begin{array}{r} 555 \\ \times \quad 9 \\ \hline \end{array}$$
11. Estimate: _____
- $$\begin{array}{r} 6,839 \\ \times \quad 4 \\ \hline \end{array}$$
12. Estimate: _____
- $$\begin{array}{r} \$9,614 \\ \times \quad 3 \\ \hline \end{array}$$

Problem Solving 

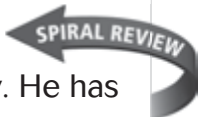
13. Lafayette County has a population of 7,022 people. Columbia County's population is about 8 times as great as Lafayette County's population. About how many people live in Columbia County?
- _____
14. A seafood company sold 9,125 pounds of fish last month. If 6 seafood companies sold the same amount of fish, how much fish did the 6 companies sell last month in all?
- _____

Lesson Check (MA.4.A.1.2)

- By recycling 1 ton of paper, 6,953 gallons of water are saved. How many gallons of water are saved by recycling 4 tons of paper?
 (A) 24,602 gallons (C) 27,812 gallons
 (B) 27,612 gallons (D) 28,000 gallons
- Esteban counted the number of steps it took him to reach school. He counted 1,138 steps. How many steps does he take walking to and from school each day?
 (F) 2,000 (H) 2,276
 (G) 2,266 (I) 22,616

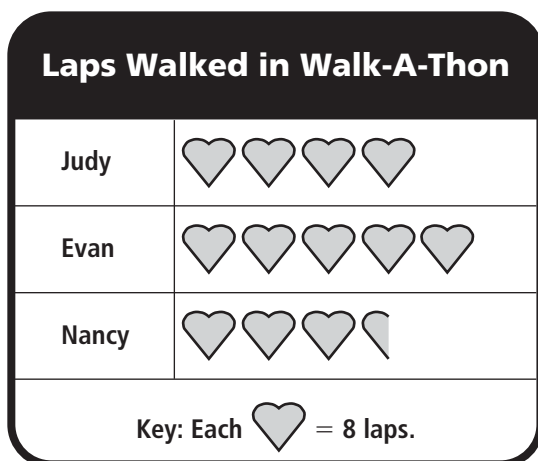
Review Grade 4 (MA.4.A.4.2)

- Erin gave out 6 invitations to her birthday party. She has 12 invitations left to deliver. Let b represent the invitations Erin started with. Which equation can be used to find how many invitations Erin started with?
 (A) $b - 6 = 12$
 (B) $b + 12 = 6$
 (C) $b + 6 = 12$
 (D) $6 \times 12 = b$
- Shawn is serving punch at a party. He has 36 ice cubes. He places an equal number of ice cubes into 9 different glasses. This is shown by the equation $36 = c \times 9$. What does the variable c represent in this equation?
 (F) the total number of ice cubes
 (G) the number of glasses
 (H) the number of guests
 (I) the number of ice cubes in each glass



Look Back (MA.3.S.7.1)

Use the pictograph below for 5–6.



- How many laps did Judy walk?
 (A) 4 (C) 32
 (B) 24 (D) 40
- How many more laps did Evan walk than Nancy?
 (F) 2 (H) 9
 (G) 8 (I) 12



Name _____

Multiply with Zeros



MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Estimate. Then find the product

- | | | | |
|--|--|--|--|
| 1. Estimate: <u>3,000</u> | 2. Estimate: _____ | 3. Estimate: _____ | 4. Estimate: _____ |
| $\begin{array}{r} 508 \\ \times 6 \\ \hline 3,048 \end{array}$ | $\begin{array}{r} 2,403 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} \$306 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 4,056 \\ \times 3 \\ \hline \end{array}$ |

- | | | | |
|--|--|--|--|
| 5. Estimate: _____ | 6. Estimate: _____ | 7. Estimate: _____ | 8. Estimate: _____ |
| $\begin{array}{r} 909 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} \$6,508 \\ \times 5 \\ \hline \end{array}$ | $\begin{array}{r} 7,007 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 810 \\ \times 9 \\ \hline \end{array}$ |

- | | | | |
|--|--|--|--|
| 9. Estimate: _____ | 10. Estimate: _____ | 11. Estimate: _____ | 12. Estimate: _____ |
| $\begin{array}{r} 3,072 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 7,104 \\ \times 6 \\ \hline \end{array}$ | $\begin{array}{r} 5,620 \\ \times 3 \\ \hline \end{array}$ | $\begin{array}{r} \$204 \\ \times 7 \\ \hline \end{array}$ |

Problem Solving

- | | |
|---|---|
| <p>13. The distance between Los Angeles, CA, and Boston, MA, is about 3,020 miles. Twice a year, Li makes a roundtrip from Los Angeles to Boston. How many total miles does Li travel each year for these trips?</p> <p>_____</p> | <p>14. A human skeleton has 206 bones. The museum of science has 8 human skeletons on display. How many human skeleton bones are there in all?</p> <p>_____</p> |
|---|---|

Lesson Check (MA.4.A.1.2)

- Gina went on a trip last year and traveled 1,046 miles. If she made the same trip 3 years in a row, how many miles would she travel?
 - 438 miles
 - 3,028 miles
 - 3,128 miles
 - 3,138 miles
- A resort offers a two-week vacation package for a family of 4 for \$3,105. The resort sold 8 of the packages this week. How much money did they make?
 - \$24,800
 - \$24,840
 - \$24,880
 - \$24,920

Review Grade 4 (MA.4.A.4.2)

- Alex spent \$24 on some new bracelets. Each bracelet cost \$6. Which equation can be used to find the number of bracelets, b , that Alex bought?
 - $\$24 \div b = \6
 - $\$24 \times b = \6
 - $\$24 + b = \6
 - $\$24 - b = \6
- Tam borrowed some money, m , from his parents. Then he borrowed \$10 more. Now Tam owes his parents a total of \$25. Which equation shows this situation?
 - $\$10 = m + \25
 - $m + \$10 = \25
 - $m = \$25 + \10
 - $m \div \$10 = \25



SPIRAL REVIEW

Look Back (MA.3.A.1.2, MA.4.A.1.2)

- What is the product of 9 ones and 0 ones?
 - 0
 - 1
 - 9
 - 90
- Andre and 3 friends play tennis. Each has 3 packs of tennis balls. Each pack has 3 balls. How many tennis balls do Andre and his friends have in all?
 - 10
 - 13
 - 30
 - 36



SPIRAL REVIEW

Name _____

Choose a Method

MA.4.A.1.2 Multiply multi-digit whole numbers through four digits fluently, demonstrating understanding the standard algorithm, and checking for reasonableness of results, including solving real-world problems.

Find the product. Write the method you used.

1. 4×88

$= (4 \times 90) -$

(4×2)

$= 360 - 8$

$= 352$

2. 5×412

3. 6×295

4. $3 \times 1,506$

5. 9×183

6. 7×41

7. 4×222

8. $8 \times 3,011$

9. $2 \times 6,547$

10. 5×904

11. 6×89

12. 3×783

Problem Solving 

13. A museum's average attendance is 4,245 visitors per month. How many visitors does the museum have in 6 months?
- _____

14. One of the heaviest known fish is the ocean sunfish. It weighs about 2,200 pounds. About how many pounds would 3 ocean sunfish weigh in all?
- _____

Lesson Check (MA.4.A.1.2)

- An electronics store sells memory cards that hold up to 4 gigabytes of memory. Last week the store sold 58 memory cards. How much memory, in gigabytes, was sold in all?

(A) 202 (C) 232
(B) 222 (D) 240
- Erick wants to use mental math to find the product of 4 and 356. Which of the following shows how he would use addition to find the product?

(F) $(4 \times 3) + (4 \times 5) + (4 \times 6)$
(G) $(4 \times 6) + (40 \times 5) + (400 \times 300)$
(H) $(4 \times 300) + (4 \times 50) + (4 \times 6)$
(I) $(4 \times 300) + (4 \times 5) + (4 \times 60)$

Review Grade 4 (MA.4.A.4.2)

- Some dogs, n , are playing chase at the dog park. Five more dogs join them. Now 12 dogs are playing chase.

$$n \quad \square \quad 5 \quad \square \quad 12$$

Which symbols should be used in the boxes above to show the story?

- (A) $=, \div$ (C) $\times, =$
(B) $-, =$ (D) $+, =$
- Min has 46 beads. She gives some of the beads to her friend. Then she makes 5 bracelets with 8 beads on each bracelet. Which equation shows the number of beads, b , Min gave to her friend?

(F) $46 = b - 5 \times 8$
(G) $(46 - b) \div 8 = 5$
(H) $(46 - b) \times 8 = 5$
(I) $b - 46 = 8 \times 5$

Look Back (MA.3.A.1.1, MA.4.A.1.1)

- Which array shows the multiplication sentence 2×6 ?

(A) $\begin{array}{ccc} \square & \square & \square \\ \square & \square & \square \end{array}$ (C) $\begin{array}{cccccc} \square & \square & \square & \square & \square & \square \\ \square & \square & \square & \square & \square & \square \end{array}$
(B) $\begin{array}{cc} \square & \square \\ \square & \square \end{array}$ (D) $\begin{array}{cccccc} \square & \square & \square & \square & \square & \square \end{array}$

- Erika has 4 cats. She needs to feed each cat 8 ounces of food daily. How can you use repeated addition to show the amount of cat food Erika needs each day?

- (F) $8 + 8 + 8 + 8$
(G) $4 + 4 + 4 + 4$
(H) $4 + 3 + 2 + 1$
(I) $8 + 4 + 8 + 4$

← SPIRAL REVIEW

← SPIRAL REVIEW

Name _____

Chapter 4 Extra Practice

Lesson 4.1 (pp. 129–132)

Use mental math to complete the pattern.

1. $4 \times 7 = 28$

$4 \times 70 = \underline{\hspace{2cm}}$

$4 \times 700 = \underline{\hspace{2cm}}$

$4 \times 7,000 = \underline{\hspace{2cm}}$

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

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

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

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

5. Larry has 9 rolls of dimes. Each roll has 50 dimes. How many dimes does Larry have in all?
- _____

2. $8 \times 2 = 16$

$8 \times 20 = \underline{\hspace{2cm}}$

$8 \times 200 = \underline{\hspace{2cm}}$

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

4. $5 \times 9 = \underline{\hspace{2cm}}$

$5 \times 90 = \underline{\hspace{2cm}}$

$5 \times 900 = \underline{\hspace{2cm}}$

$5 \times 9,000 = \underline{\hspace{2cm}}$

6. Elena has five \$20 bills and seven \$10 bills. How much money does Elena have?
- _____

Lesson 4.2 (pp. 133–136)

Estimate the product by rounding the greater factor.

1. 3×813

2. 5×278

3. $2 \times 1,749$

4. $6 \times 8,637$

Find two numbers the answer is between.

5. 4×428

6. $3 \times 9,866$

7. 7×376

8. $8 \times 3,826$

Lessons 4.4 and 4.5 (pp. 141–148)

Estimate. Then record the product.

1. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ 44 \\ \times 5 \\ \hline \end{array}$$

2. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ 63 \\ \times 7 \\ \hline \end{array}$$

3. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ \$75 \\ \times 4 \\ \hline \end{array}$$

4. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ \$58 \\ \times 6 \\ \hline \end{array}$$

5. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ \$86 \\ \times 3 \\ \hline \end{array}$$

6. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ 49 \\ \times 5 \\ \hline \end{array}$$

7. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ 92 \\ \times 7 \\ \hline \end{array}$$

8. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ \$28 \\ \times 9 \\ \hline \end{array}$$

9. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ \$88 \\ \times 3 \\ \hline \end{array}$$

10. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ 27 \\ \times 9 \\ \hline \end{array}$$

11. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ \$73 \\ \times 6 \\ \hline \end{array}$$

12. Estimate:

$$\begin{array}{r} \underline{\quad\quad} \\ 65 \\ \times 8 \\ \hline \end{array}$$

Lesson 4.6 (pp. 149–152)

1. Jack's dad is tiling his shower. On one wall, he will use 9 rows of 14 tiles. The 4 center tiles in the top 2 rows will have a special design on them. How many of the tiles will not have a design on them?

3. Paul has 32 marbles. Lee has 2 times as many marbles as Paul. If Lee gives his brother 5 marbles, how many marbles does Lee have left?

2. Stuart's dog, Sam, weighs 13 pounds. His sister's dog, Earl, weighs 3 times as much as Sam. How much does Earl weigh?

4. Sara buys a sweater for \$35 and 4 pairs of socks for \$4 each. How much change should she get back from three \$20 bills?

Lesson 4.8 (pp. 159–162)

Estimate. Then record the product.

1. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ 318 \\ \times \quad 5 \\ \hline \end{array}$$

2. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ 174 \\ \times \quad 7 \\ \hline \end{array}$$

3. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ \$233 \\ \times \quad 4 \\ \hline \end{array}$$

4. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ \$282 \\ \times \quad 6 \\ \hline \end{array}$$

5. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ \$946 \\ \times \quad 3 \\ \hline \end{array}$$

6. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ 754 \\ \times \quad 5 \\ \hline \end{array}$$

7. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ 229 \\ \times \quad 4 \\ \hline \end{array}$$

8. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ \$538 \\ \times \quad 9 \\ \hline \end{array}$$

Lesson 4.9 (pp. 163–166)

Estimate. Then find the product.

1. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ \$4,813 \\ \times \quad 8 \\ \hline \end{array}$$

2. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ 7,417 \\ \times \quad 3 \\ \hline \end{array}$$

3. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ \$3,913 \\ \times \quad 4 \\ \hline \end{array}$$

4. Estimate:

$$\begin{array}{r} \underline{\quad\quad\quad} \\ 4,462 \\ \times \quad 7 \\ \hline \end{array}$$

5. Marla has 380 songs on her portable media player. Her sister Sandy has about 5 times as many songs on her media player as Marla. About how many songs does Sandy have on her media player?

6. The member price for admission to a museum is \$9. If 1,278 members visited the museum last week, what is the total amount of money paid by the members for museum admission?

Lesson 4.10 (pp. 167–170)

Estimate. Then find the product.

1. Estimate:

$$\begin{array}{r} \underline{} \\ 103 \\ \times 7 \\ \hline \end{array}$$

2. Estimate:

$$\begin{array}{r} \underline{} \\ 708 \\ \times 5 \\ \hline \end{array}$$

3. Estimate:

$$\begin{array}{r} \underline{} \\ \$3,003 \\ \times 4 \\ \hline \end{array}$$

4. Estimate:

$$\begin{array}{r} \underline{} \\ 5,505 \\ \times 9 \\ \hline \end{array}$$

5. Estimate:

$$\begin{array}{r} \underline{} \\ \$2,030 \\ \times 2 \\ \hline \end{array}$$

6. Estimate:

$$\begin{array}{r} \underline{} \\ \$9,009 \\ \times 7 \\ \hline \end{array}$$

7. Estimate:

$$\begin{array}{r} \underline{} \\ 6,031 \\ \times 5 \\ \hline \end{array}$$

8. Estimate:

$$\begin{array}{r} \underline{} \\ \$538 \\ \times 9 \\ \hline \end{array}$$

Lesson 4.11 (pp. 171–174)

1. 8×436

2. $7 \times \$9,090$

3. $6 \times 8,347$

4. $2 \times 6,888$

5. 4×305

6. $7 \times 3,007$

7. 9×783

8. $3 \times 3,006$

9. $8 \times 7,545$

10. Brazil has 4,276 airports. The United States has a little more than 3 times as many airports as Brazil. About how many airports does the United States have?

11. Ben's Appliance Store sells televisions. Last Friday, the store sold 6 televisions that cost \$2,998 each. What was the total cost of the 6 televisions?
