

# Grade 5 Unit 4 Module 4 Practice Pages for Math at Home

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NAME \_\_\_\_\_

DATE \_\_\_\_\_



## 2- by 3-Digit Multiplication

- 1 Solve each problem below using the traditional (standard) multiplication algorithm.

$$\begin{array}{r} 785 \\ \times 39 \\ \hline \end{array}$$

$$\begin{array}{r} 804 \\ \times 26 \\ \hline \end{array}$$

$$\begin{array}{r} 653 \\ \times 98 \\ \hline \end{array}$$

- 2 Choose one problem above that you could solve easily with a different strategy. Explain which strategy you would use and why.

- 3 Fill in the boxes.

$$\begin{array}{r} 67 \\ \times 76 \\ \hline 4\ \square\ 2 \\ + 4,\ \square\ 9\ \square \\ \hline \square\ \square\ \square\ \square \end{array}$$

$$\begin{array}{r} 49 \\ \times 27 \\ \hline \square\ 4\ 3 \\ + \square\ 8\ \square \\ \hline \square,\ 3\ \square\ 3 \end{array}$$

### Review

- 4 Claudia says that  $17 \times 80$  is the same as  $17 \times 8 \times 10$ . Do you agree or disagree? Explain.
- 5 Andre says that  $4 \times 27$  is the same as  $4 \times 3 \times 9$ . Do you agree or disagree? Explain.

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## Division on a Base Ten Grid

1 Complete the following multiplication problems.

$$\begin{array}{r} 14 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ \times 10 \\ \hline \end{array}$$

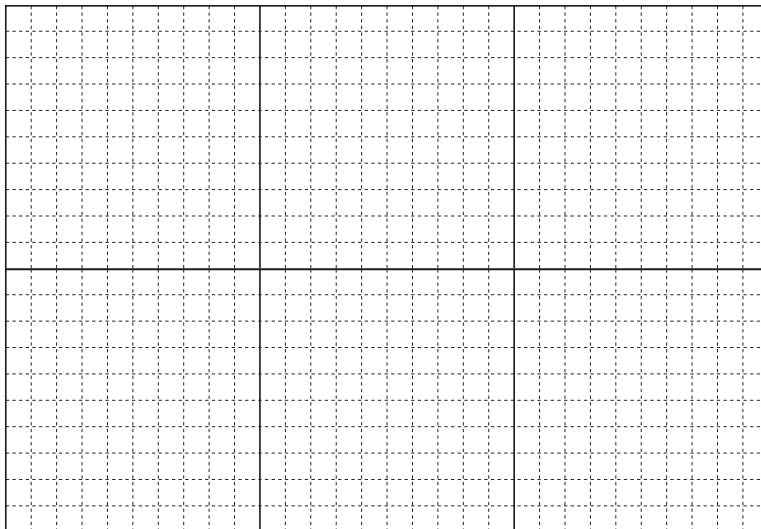
$$\begin{array}{r} 14 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ \times 20 \\ \hline \end{array}$$

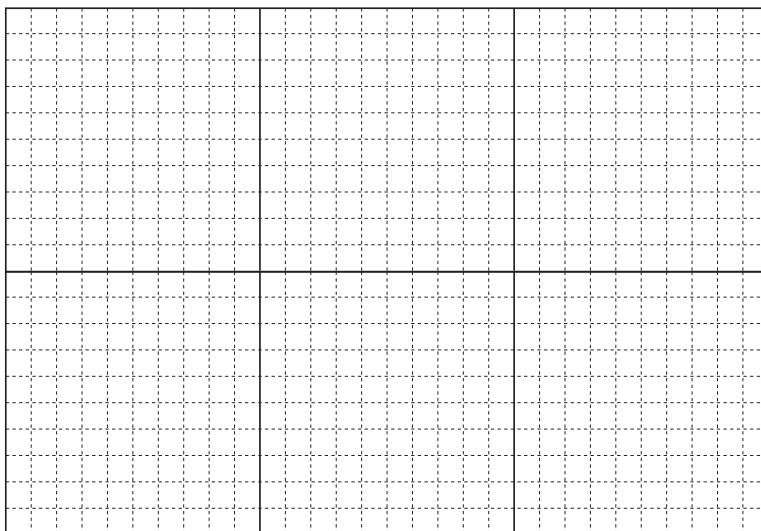
$$\begin{array}{r} 14 \\ \times 30 \\ \hline \end{array}$$

2 Solve the following division problems. Use the multiplication problems above and the grids to help.

**a**  $322 \div 14 = \underline{\hspace{2cm}}$



**b**  $238 \div 14 = \underline{\hspace{2cm}}$



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## Division with Tables & Sketches

1 Fill in the ratio table for 19.

Number of Groups	1	2	10	5	20	15		
Total	19							

2 Solve the two division problems using the ratio table above and sketches to help. You can add to the ratio table if you want to.

**ex**  $304 \div 19 = \underline{16}$      **a**  $608 \div 19 = \underline{\hspace{2cm}}$      **b**  $456 \div 19 = \underline{\hspace{2cm}}$

Computation	Computation	Computation
$  \begin{array}{r}  16 \\  19 \overline{) 304} \\  \underline{190} \phantom{0} \\  114 \\  \underline{95} \\  19 \\  \underline{19} \\  0  \end{array}  $		
Sketch	Sketch	Sketch

3 Use the standard multiplication algorithm to solve the problems below. Show your work.

$$\begin{array}{r} 84 \\ \times 36 \\ \hline \end{array}$$

$$\begin{array}{r} 79 \\ \times 26 \\ \hline \end{array}$$

$$\begin{array}{r} 86 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 92 \\ \times 37 \\ \hline \end{array}$$

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## Divisibility Rules

It's easy to tell if a small number like 12 is divisible by another number. With bigger numbers, like 435, it can be harder to tell. You already know how to tell if a number is divisible by 2, 5, or 10. There are also rules that can help you tell if any number is divisible by 3, 6, or 9.

Rule	Example
A number is divisible by 3 if the sum of its digits is divisible by 3.	957 is divisible by 3 because $9 + 5 + 7 = 21$ , and 21 is divisible by 3. ( $21 \div 3 = 7$ )
A number is divisible by 6 if it is divisible by 3 (see above) and it is divisible by 2 (has a 0, 2, 4, 6, or 8 in the ones place).	786 is divisible by 6 because $7 + 8 + 6 = 21$ , and 21 is divisible by 3. ( $21 \div 3 = 7$ ) 786 also ends in 6, which means it is even (divisible by 2).
A number is divisible by 9 if the sum of its digits is divisible by 9.	837 is divisible by 9 because $8 + 3 + 7 = 18$ , and 18 is divisible by 9.

- 1** Use the chart below to help you figure out if the numbers are divisible by 3, 6, or 9. In the last column, you don't have to list all the factors of the number. Just list any other numbers you know for sure that the number is divisible by.

Number	Sum of the Digits	Divisible by 3?	Divisible by 6?	Divisible by 9?	Also Divisible by:
<b>ex</b> 495	$4 + 9 + 5 = 18$	yes	no	yes	5
<b>a</b> 987					
<b>b</b> 540					
<b>c</b> 762					
<b>d</b> 747					
<b>e</b> 570					
<b>f</b> 645					
<b>g</b> 792					



# Multiplication Problems & Mazes

**1** Complete the multiplication problems below. Use problems you have already solved to help solve other ones.

- |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|
| <b>a</b> $18 \times 2 =$ _____ | <b>b</b> $23 \times 2 =$ _____ | <b>c</b> $34 \times 2 =$ _____ |
| $18 \times 3 =$ _____          | $23 \times 3 =$ _____          | $34 \times 3 =$ _____          |
| $18 \times 10 =$ _____         | $23 \times 10 =$ _____         | $34 \times 10 =$ _____         |
| $18 \times 5 =$ _____          | $23 \times 5 =$ _____          | $34 \times 5 =$ _____          |

**2** Use the problems above to write three more combinations for each number. Show as much work as you need to find each product.

- |                                      |                                      |                                      |
|--------------------------------------|--------------------------------------|--------------------------------------|
| <b>a</b> $18 \times$ _____ $=$ _____ | <b>b</b> $23 \times$ _____ $=$ _____ | <b>c</b> $34 \times$ _____ $=$ _____ |
| $18 \times$ _____ $=$ _____          | $23 \times$ _____ $=$ _____          | $34 \times$ _____ $=$ _____          |
| $18 \times$ _____ $=$ _____          | $23 \times$ _____ $=$ _____          | $34 \times$ _____ $=$ _____          |

**3** Use multiplication and division to find the secret path through each maze. The starting and ending points are marked for you. You can only move one space up, down, over, or diagonally each time. Write four equations to explain the path through the maze.

**ex**

	20	60	3
end	3	9	180
start	36	4	20

Arrows indicate a path from 36 to 4 to 20 to 9 to 180 to 60 to 3.

$$36 \div 4 = 9$$

$$9 \times 20 = 180$$

$$180 \div 3 = 60$$

$$60 \div 20 = 3$$

**a**

			start
	4	60	240
end	5	30	120
	4	20	6

**b**

	end	start	
	5	420	6
	6	70	40
	30	8	240



## Mike's Measurements

Mike is moving to a new house. He is measuring his furniture to see which items will fit in his new room. Help Mike determine the measurements of his furniture.

- 1** Mike's bed has a base of 192 cm by 96 cm. What is the perimeter of the base of Mike's bed in meters? Show your work.
  
  
  
  
  
  
  
  
  
  
- 2** Mike's wooden storage box is 25 inches by 36 inches by 39 inches. What is the volume of Mike's box? Show your work.
  
  
  
  
  
  
  
  
  
  
- 3** Mike's room is rectangular. One wall of Mike's new room is 3.96 meters long.
  - a** How long is this wall in centimeters?
  
  
  
  
  
  
  
  - b** How long is this wall in millimeters?
  
  
  
  
  
  
  
  
  
  
- 4** Another wall in Mike's room is 2.51 meters long.
  - a** How long is this wall in centimeters?
  
  
  
  
  
  
  
  - b** How long is this wall in millimeters?
  
  
  
  
  
  
  
  
  
  
- 5** What is the area of Mike's room in square centimeters? Show your work.



## Number Relationships page 1 of 2

Fill in the blanks.

1  $\frac{3}{4}$  of 12 is \_\_\_\_\_, so  $0.75 \times 12 =$  \_\_\_\_\_, and  $75 \times 12 =$  \_\_\_\_\_.

2  $\frac{1}{4}$  of 8 is \_\_\_\_\_, so  $0.25 \times 8 =$  \_\_\_\_\_, and  $25 \times 8 =$  \_\_\_\_\_.

3  $\frac{1}{4}$  of 9 is \_\_\_\_\_, so  $0.25 \times 9 =$  \_\_\_\_\_, and  $25 \times 9 =$  \_\_\_\_\_.

4  $\frac{3}{4}$  of 82 is \_\_\_\_\_, so  $0.75 \times 82 =$  \_\_\_\_\_, and  $75 \times 82 =$  \_\_\_\_\_.

5 Complete the problems.

$$\begin{array}{r} 873 \\ \times 27 \\ \hline 6,1\blacksquare 1 \\ + 1\blacksquare,46\blacksquare \\ \hline \blacksquare\blacksquare\blacksquare\blacksquare \end{array}$$

$$\begin{array}{r} 304 \\ \times 89 \\ \hline 2,7\blacksquare\blacksquare \\ + 2\blacksquare,320 \\ \hline 27,\blacksquare 5\blacksquare \end{array}$$

6 Fill in the table to round numbers to the nearest ten, one, tenth, and hundredth.

Round to the Nearest:	Ten	One	Tenth	Hundredth
506.308				
715.071				
80.916				

(continued on next page)



**Number Relationships** page 2 of 2**Story Problems**

Read the story problems. Choose one problem to solve with the standard algorithm. Choose any strategy for the other problems. Show your work and explain your choices.

- 7** Chloe bought sets of markers for all of her classmates. Each set cost \$0.99. If Chloe has 28 classmates, how much did all of the sets of markers cost?

Strategy:

Why did you choose this strategy?

- 8** The base of Tyler's cabin is a 56 feet by 78 feet rectangle. What is the area of the base of Tyler's cabin?

Strategy:

Why did you choose this strategy?

- 9** A female mouse can give birth to one dozen babies in a single litter. 78 mice each had a dozen babies, called pups. How many pups are there?

Strategy:

Why did you choose this strategy?



# Unit 4 Review page 1 of 4

## Note to Families

We have been practicing division at school. First we used sketches to help, and now we are practicing using a numerical method that probably looks somewhat similar to the way you learned to do long division. Look at the comparison below, and then talk to your fifth grader as he or she completes problem 2. You might enjoy using this method to solve some long division problems yourself. If so, your child can help you.

### A Familiar Way

$$\begin{array}{r} 37 \\ 13 \overline{) 481} \\ \underline{- 39} \phantom{0} \\ 91 \\ \underline{- 91} \\ 0 \end{array}$$

### A New, Similar Way

$$\begin{array}{r} 2 \phantom{0} \\ 5 \phantom{0} \\ 10 \phantom{0} \\ 20 \phantom{0} \\ 13 \overline{) 481} \\ \underline{- 260} \\ 221 \\ \underline{- 130} \\ 91 \\ \underline{- 65} \\ 26 \\ \underline{- 26} \\ 0 \end{array}$$

<b>Number of Groups</b>	1	10	20	5		
<b>Total</b>	13	130	260	65		

## 1 Fill in the blanks.

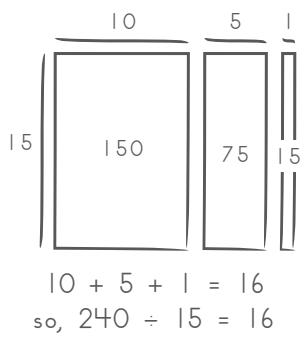
**a**  $\frac{1}{4}$  of 36 is \_\_\_\_\_, so  $0.25 \times 36$  is \_\_\_\_\_, so  $25 \times 36$  is \_\_\_\_\_,  
so  $26 \times 36$  is \_\_\_\_\_, and  $24 \times 36$  is \_\_\_\_\_.

**b**  $\frac{1}{4}$  of 48 is \_\_\_\_\_, so  $\frac{3}{4}$  of 48 is \_\_\_\_\_, so  $75 \times 48$  is \_\_\_\_\_,  
so  $76 \times 48 =$  \_\_\_\_\_, and  $74 \times 48$  is \_\_\_\_\_.

(continued on next page)

**Unit 4 Review** page 2 of 4

**2** Solve the division problems below. For each one, complete the ratio table first. Then you can solve the problem using only numbers, or you can use sketches and numbers together. You can also add more entries to the ratio table if you want to. The first problem has been done for you as an example.

<p><b>ex</b></p> $\begin{array}{r} 15 \overline{) 240} \\ -150 \\ \hline 90 \\ -75 \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$	$\begin{array}{c} 1 \\ 5 \\ 10 \end{array} \left. \vphantom{\begin{array}{c} 1 \\ 5 \\ 10 \end{array}} \right\} 16$ <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 15%;"><b>Number of Groups</b></td> <td style="width: 15%;">1</td> <td style="width: 15%;">10</td> <td style="width: 15%;">20</td> <td style="width: 15%;">5</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> </tr> <tr> <td><b>Total</b></td> <td>15</td> <td>150</td> <td>300</td> <td>75</td> <td></td> <td></td> </tr> </table>	<b>Number of Groups</b>	1	10	20	5			<b>Total</b>	15	150	300	75			 <p style="text-align: center; margin-top: 5px;"><math>10 + 5 + 1 = 16</math> so, <math>240 \div 15 = 16</math></p>
<b>Number of Groups</b>	1	10	20	5												
<b>Total</b>	15	150	300	75												
<p><b>a</b></p> $16 \overline{) 272}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Number of Groups</b></td> <td style="width: 15%;">1</td> <td style="width: 15%;">10</td> <td style="width: 15%;">20</td> <td style="width: 15%;">5</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> </tr> <tr> <td><b>Total</b></td> <td>16</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	<b>Number of Groups</b>	1	10	20	5			<b>Total</b>	16						
<b>Number of Groups</b>	1	10	20	5												
<b>Total</b>	16															
<p><b>b</b></p> $12 \overline{) 216}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Number of Groups</b></td> <td style="width: 15%;">1</td> <td style="width: 15%;">10</td> <td style="width: 15%;">20</td> <td style="width: 15%;">5</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> </tr> <tr> <td><b>Total</b></td> <td>12</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	<b>Number of Groups</b>	1	10	20	5			<b>Total</b>	12						
<b>Number of Groups</b>	1	10	20	5												
<b>Total</b>	12															
<p><b>c</b></p> $17 \overline{) 408}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>Number of Groups</b></td> <td style="width: 15%;">1</td> <td style="width: 15%;">10</td> <td style="width: 15%;">20</td> <td style="width: 15%;">5</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> </tr> <tr> <td><b>Total</b></td> <td>17</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	<b>Number of Groups</b>	1	10	20	5			<b>Total</b>	17						
<b>Number of Groups</b>	1	10	20	5												
<b>Total</b>	17															

*(continued on next page)*

NAME \_\_\_\_\_

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**Unit 4 Review** page 3 of 4

- 3a** Maria is planning to make friendship bracelets to sell at the farmers' market. Each bracelet costs \$1.25 to make. Use the ratio table to show your strategy for finding the cost to make 19 bracelets.

<b>Number of Bracelets</b>	1								
<b>Cost</b>	\$1.25								

The cost to make 19 bracelets is \_\_\_\_\_.

- b** Use the ratio table to show your strategy for finding how many bracelets Maria can make for \$126.25.

<b>Number of Bracelets</b>	1								
<b>Cost</b>	\$1.25								

Maria can make \_\_\_\_\_ bracelets for \$126.25.

- 4** Solve the problems below. Use the standard algorithm for one problem. Use any strategies for the other problems. Show your work. Explain your choice of strategy.

$$\begin{array}{r} 26 \\ \times 36 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ \times 36 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ \times 36 \\ \hline \end{array}$$

<b>Why did you choose this strategy?</b>	<b>Why did you choose this strategy?</b>	<b>Why did you choose this strategy?</b>

*(continued on next page)*

**Unit 4 Review** page 4 of 4

- 5** Fill in the boxes to complete each multiplication combination below using the standard algorithm.

$$\begin{array}{r}
 46 \\
 \times 32 \\
 \hline
 \square 2 \\
 + \square 38 \square \\
 \hline
 1, \square 7 \square
 \end{array}$$

$$\begin{array}{r}
 506 \\
 \times 31 \\
 \hline
 \square 06 \\
 + 15, \square \square 0 \\
 \hline
 \square \square \square \square
 \end{array}$$

$$\begin{array}{r}
 622 \\
 \times 77 \\
 \hline
 4,3 \square 4 \\
 + \square \square, 540 \\
 \hline
 4 \square, 8 \square 4
 \end{array}$$

# Answer Keys

NAME \_\_\_\_\_

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## 2- by 3-Digit Multiplication

- 1 Solve each problem below using the traditional (standard) multiplication algorithm.

$$\begin{array}{r} 785 \\ \times 39 \\ \hline 7065 \\ + 23,550 \\ \hline 30,615 \end{array}$$

$$\begin{array}{r} 804 \\ \times 26 \\ \hline 4824 \\ + 16,080 \\ \hline 20,904 \end{array}$$

$$\begin{array}{r} 653 \\ \times 98 \\ \hline 5224 \\ + 58,770 \\ \hline 63,994 \end{array}$$

- 2 Choose one problem above that you could solve easily with a different strategy. Explain which strategy you would use and why.

**Responses and explanations will vary.**

- 3 Fill in the boxes.

$$\begin{array}{r} 67 \\ \times 76 \\ \hline 402 \\ + 4,690 \\ \hline 5,092 \end{array}$$

$$\begin{array}{r} 49 \\ \times 27 \\ \hline 343 \\ + 980 \\ \hline 1,323 \end{array}$$

### Review

- 4 Claudia says that  $17 \times 80$  is the same as  $17 \times 8 \times 10$ . Do you agree or disagree? Explain.

**Claudia is correct. Explanations will vary.**

- 5 Andre says that  $4 \times 27$  is the same as  $4 \times 3 \times 9$ . Do you agree or disagree? Explain.

**Andre is correct. Explanations will vary.**

NAME \_\_\_\_\_

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# Division on a Base Ten Grid

1 Complete the following multiplication problems.

$$\begin{array}{r} 14 \\ \times 2 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 14 \\ \times 3 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 14 \\ \times 10 \\ \hline 140 \end{array}$$

$$\begin{array}{r} 14 \\ \times 5 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 14 \\ \times 20 \\ \hline 280 \end{array}$$

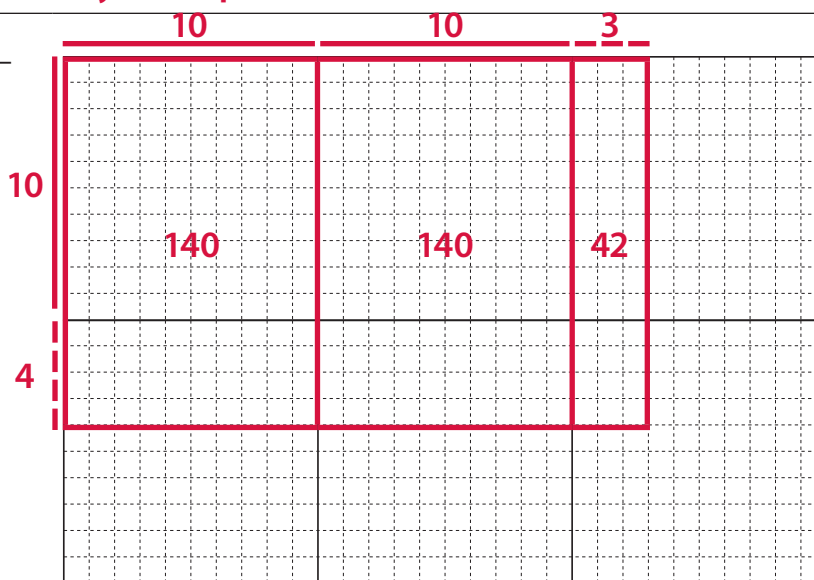
$$\begin{array}{r} 14 \\ \times 30 \\ \hline 420 \end{array}$$

2 Solve the following division problems. Use the multiplication problems above and the grids to help. **Work will vary. Examples shown.**

a  $322 \div 14 = \underline{23}$

$$\begin{array}{r} 322 \\ - 140 \\ \hline 182 \\ - 140 \\ \hline 42 \\ - 42 \\ \hline 0 \end{array}$$

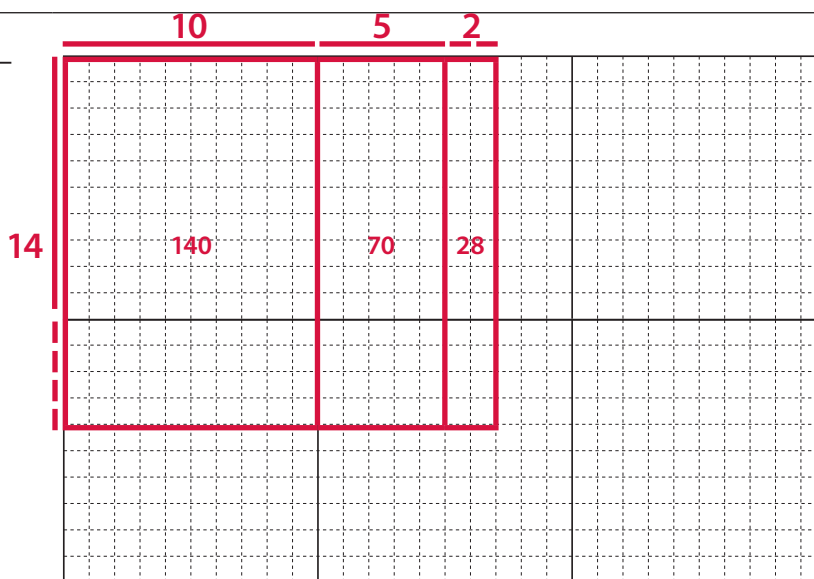
$10 + 10 + 3 = 23$



b  $238 \div 14 = \underline{17}$

$$\begin{array}{r} 238 \\ - 140 \\ \hline 98 \\ - 70 \\ \hline 28 \\ - 28 \\ \hline 0 \end{array}$$

$10 + 5 + 2 = 17$





NAME \_\_\_\_\_

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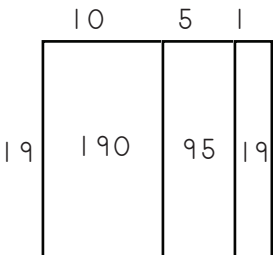
# Division with Tables & Sketches

1 Fill in the ratio table for 19.

<b>Number of Groups</b>	1	2	10	5	20	15		
<b>Total</b>	19	38	190	95	380	285		

2 Solve the two division problems using the ratio table above and sketches to help. You can add to the ratio table if you want to.

**ex**  $304 \div 19 = \underline{16}$      **a**  $608 \div 19 = \underline{32}$      **b**  $456 \div 19 = \underline{24}$

Computation	Computation	Computation
$  \begin{array}{r}  16 \\  19 \overline{) 304} \\  \underline{190} \phantom{0} \\  114 \\  \underline{95} \\  19 \\  \underline{19} \\  0  \end{array}  $	Work will vary	
Sketch	Sketch	Sketch
	Work will vary	

3 Use the standard multiplication algorithm to solve the problems below. Show your work.

$$\begin{array}{r}
 1 \\
 \cancel{2} \\
 84 \\
 \times 36 \\
 \hline
 504 \\
 + 2520 \\
 \hline
 3,024
 \end{array}$$

$$\begin{array}{r}
 1 \\
 \cancel{2} \\
 79 \\
 \times 26 \\
 \hline
 474 \\
 + 1580 \\
 \hline
 2,054
 \end{array}$$

$$\begin{array}{r}
 1 \\
 86 \\
 \times 32 \\
 \hline
 172 \\
 + 2580 \\
 \hline
 2,752
 \end{array}$$

$$\begin{array}{r}
 1 \\
 92 \\
 \times 37 \\
 \hline
 644 \\
 + 2760 \\
 \hline
 3,404
 \end{array}$$

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DATE \_\_\_\_\_



## Divisibility Rules

It's easy to tell if a small number like 12 is divisible by another number. With bigger numbers, like 435, it can be harder to tell. You already know how to tell if a number is divisible by 2, 5, or 10. There are also rules that can help you tell if any number is divisible by 3, 6, or 9.

Rule	Example
A number is divisible by 3 if the sum of its digits is divisible by 3.	957 is divisible by 3 because $9 + 5 + 7 = 21$ , and 21 is divisible by 3. ( $21 \div 3 = 7$ )
A number is divisible by 6 if it is divisible by 3 (see above) and it is divisible by 2 (has a 0, 2, 4, 6, or 8 in the ones place).	786 is divisible by 6 because $7 + 8 + 6 = 21$ , and 21 is divisible by 3. ( $21 \div 3 = 7$ ) 786 also ends in 6, which means it is even (divisible by 2).
A number is divisible by 9 if the sum of its digits is divisible by 9.	837 is divisible by 9 because $8 + 3 + 7 = 18$ , and 18 is divisible by 9.

- 1** Use the chart below to help you figure out if the numbers are divisible by 3, 6, or 9. In the last column, you don't have to list all the factors of the number. Just list any other numbers you know for sure that the number is divisible by.

Number	Sum of the Digits	Divisible by 3?	Divisible by 6?	Divisible by 9?	Also Divisible by:
<b>ex</b> 495	$4 + 9 + 5 = 18$	yes	no	yes	5
<b>a</b> 987	$9 + 8 + 7 = 24$	yes	no	no	1
<b>b</b> 540	$5 + 4 + 0 = 9$	yes	yes	yes	10, 2, 5
<b>c</b> 762	$7 + 6 + 2 = 15$	yes	yes	no	2
<b>d</b> 747	$7 + 4 + 7 = 18$	yes	no	yes	1
<b>e</b> 570	$5 + 7 + 0 = 12$	yes	yes	no	2, 5, 10
<b>f</b> 645	$6 + 4 + 5 = 15$	yes	no	no	5
<b>g</b> 792	$7 + 9 + 2 = 18$	yes	yes	yes	2

Answers will vary.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Multiplication Problems & Mazes

**1** Complete the multiplication problems below. Use problems you have already solved to help solve other ones.

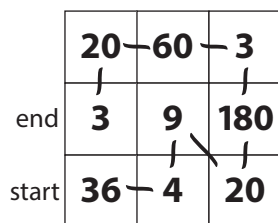
<b>a</b> $18 \times 2 = \underline{36}$	<b>b</b> $23 \times 2 = \underline{46}$	<b>c</b> $34 \times 2 = \underline{68}$
$18 \times 3 = \underline{54}$	$23 \times 3 = \underline{69}$	$34 \times 3 = \underline{102}$
$18 \times 10 = \underline{180}$	$23 \times 10 = \underline{230}$	$34 \times 10 = \underline{340}$
$18 \times 5 = \underline{90}$	$23 \times 5 = \underline{115}$	$34 \times 5 = \underline{170}$

**2** Use the problems above to write three more combinations for each number. Show as much work as you need to find each product. **Combinations will vary.**

<b>a</b> $18 \times \underline{\quad} = \underline{\quad}$	<b>b</b> $23 \times \underline{\quad} = \underline{\quad}$	<b>c</b> $34 \times \underline{\quad} = \underline{\quad}$
$18 \times \underline{\quad} = \underline{\quad}$	$23 \times \underline{\quad} = \underline{\quad}$	$34 \times \underline{\quad} = \underline{\quad}$
$18 \times \underline{\quad} = \underline{\quad}$	$23 \times \underline{\quad} = \underline{\quad}$	$34 \times \underline{\quad} = \underline{\quad}$

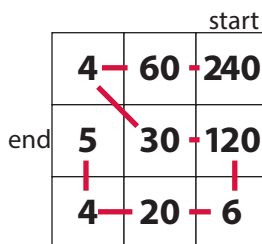
**3** Use multiplication and division to find the secret path through each maze. The starting and ending points are marked for you. You can only move one space up, down, over, or diagonally each time. Write four equations to explain the path through the maze.

**ex**



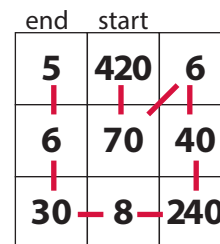
$36 \div 4 = 9$   
 $9 \times 20 = 180$   
 $180 \div 3 = 60$   
 $60 \div 20 = 3$

**a**



$240 \div 60 = 4$   
 $4 \times 30 = 120$   
 $120 \div 6 = 20$   
 $20 \div 4 = 5$

**b**



$420 \div 70 = 6$   
 $6 \times 40 = 240$   
 $240 \div 8 = 30$   
 $30 \div 6 = 5$

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## Mike's Measurements

Mike is moving to a new house. He is measuring his furniture to see which items will fit in his new room. Help Mike determine the measurements of his furniture.

- 1** Mike's bed has a base of 192 cm by 96 cm. What is the perimeter of the base of Mike's bed in meters? Show your work.

**5.76 meters; work will vary.**

- 2** Mike's wooden storage box is 25 inches by 36 inches by 39 inches. What is the volume of Mike's box? Show your work.

**35,100 cubic inches; work will vary.**

- 3** Mike's room is rectangular. One wall of Mike's new room is 3.96 meters long.

- a** How long is this wall in centimeters?

**396 cm**

- b** How long is this wall in millimeters?

**3,960 mm**

- 4** Another wall in Mike's room is 2.51 meters long.

- a** How long is this wall in centimeters?

**251 cm**

- b** How long is this wall in millimeters?

**2,510 mm**

- 5** What is the area of Mike's room in square centimeters? Show your work.

**99,396 sq cm.; work will vary.**

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**Number Relationships** page 1 of 2

Fill in the blanks.

1  $\frac{3}{4}$  of 12 is 9, so  $0.75 \times 12 =$  9, and  $75 \times 12 =$  900.

2  $\frac{1}{4}$  of 8 is 2, so  $0.25 \times 8 =$  2, and  $25 \times 8 =$  200.

3  $\frac{1}{4}$  of 9 is 2.25, so  $0.25 \times 9 =$  2.25, and  $25 \times 9 =$  225.

4  $\frac{3}{4}$  of 82 is 61.5, so  $0.75 \times 82 =$  61.5, and  $75 \times 82 =$  6,150

5 Complete the problems.

$$\begin{array}{r} 873 \\ \times 27 \\ \hline 6,111 \\ + 17,460 \\ \hline 23,571 \end{array}$$

$$\begin{array}{r} 304 \\ \times 89 \\ \hline 2,736 \\ + 24,320 \\ \hline 27,056 \end{array}$$

6 Fill in the table to round numbers to the nearest ten, one, tenth, and hundredth.

Round to the Nearest:	Ten	One	Tenth	Hundredth
506.308	<b>510</b>	<b>506</b>	<b>506.3</b>	<b>506.31</b>
715.071	<b>720</b>	<b>715</b>	<b>715.1</b>	<b>715.07</b>
80.916	<b>80</b>	<b>81</b>	<b>80.9</b>	<b>80.92</b>

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**Number Relationships** page 2 of 2**Story Problems**

Read the story problems. Choose one problem to solve with the standard algorithm. Choose any strategy for the other problems. Show your work and explain your choices.

- 7** Chloe bought sets of markers for all of her classmates. Each set cost \$0.99. If Chloe has 28 classmates, how much did all of the sets of markers cost?

Strategy:

**\$27.72**

Why did you choose this strategy?

**Strategies and explanations will vary.**

- 8** The base of Tyler's cabin is a 56 feet by 78 feet rectangle. What is the area of the base of Tyler's cabin?

Strategy:

**4,368 sq. ft.**

Why did you choose this strategy?

**Strategies and explanations will vary.**

- 9** A female mouse can give birth to one dozen babies in a single litter. 78 mice each had a dozen babies, called pups. How many pups are there?

Strategy:

**936 pups**

Why did you choose this strategy?

**Strategies and explanations will vary.**

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**Unit 4 Review** page 1 of 4**Note to Families**

We have been practicing division at school. First we used sketches to help, and now we are practicing using a numerical method that probably looks somewhat similar to the way you learned to do long division. Look at the comparison below, and then talk to your fifth grader as he or she completes problem 2. You might enjoy using this method to solve some long division problems yourself. If so, your child can help you.

**A Familiar Way**

$$\begin{array}{r} 37 \\ 13 \overline{) 481} \\ \underline{- 39} \phantom{0} \\ 91 \\ \underline{- 91} \\ 0 \end{array}$$

**A New, Similar Way**

$$\begin{array}{r} 2 \phantom{0} \\ 5 \phantom{0} \\ 10 \phantom{0} \\ 20 \phantom{0} \\ 13 \overline{) 481} \\ \underline{- 260} \\ 221 \\ \underline{- 130} \\ 91 \\ \underline{- 65} \\ 26 \\ \underline{- 26} \\ 0 \end{array}$$

<b>Number of Groups</b>	1	10	20	5		
<b>Total</b>	13	130	260	65		

**1** Fill in the blanks.

**a**  $\frac{1}{4}$  of 36 is 9, so  $0.25 \times 36$  is 9, so  $25 \times 36$  is 900,

so  $26 \times 36$  is 936, and  $24 \times 36$  is 864.

**b**  $\frac{1}{4}$  of 48 is 12, so  $\frac{3}{4}$  of 48 is 36, so  $75 \times 48$  is 3,600,

so  $76 \times 48 =$  3,648, and  $74 \times 48$  is 3,552.

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**2** Solve the division problems below. For each one, complete the ratio table first. Then you can solve the problem using only numbers, or you can use sketches and numbers together. You can also add more entries to the ratio table if you want to. The first problem has been done for you as an example. **Work will vary.**

**ex**

$$\begin{array}{r}
 15 \overline{) 240} \\
 \underline{-150} \\
 90 \\
 \underline{-75} \\
 15 \\
 \underline{-15} \\
 0
 \end{array}$$

<b>Number of Groups</b>	1	10	20	5		
<b>Total</b>	15	150	300	75		

$10 + 5 + 1 = 16$   
 so,  $240 \div 15 = 16$

**a**

$$\begin{array}{r}
 16 \overline{) 272} \\
 \underline{-160} \\
 112 \\
 \underline{-80} \\
 32 \\
 \underline{-32} \\
 0
 \end{array}$$

<b>Number of Groups</b>	1	10	20	5		
<b>Total</b>	16	160	320	80		

**$272 \div 16 = 17$**

**b**

$$\begin{array}{r}
 12 \overline{) 216} \\
 \underline{-180} \\
 36 \\
 \underline{-36} \\
 0
 \end{array}$$

<b>Number of Groups</b>	1	10	20	5	15	
<b>Total</b>	12	120	240	60	180	

**$216 \div 12 = 18$**

**c**

$$\begin{array}{r}
 17 \overline{) 408} \\
 \underline{-340} \\
 68 \\
 \underline{-68} \\
 0
 \end{array}$$

<b>Number of Groups</b>	1	10	20	5		
<b>Total</b>	17	170	340	85		

**$408 \div 17 = 24$**

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**Unit 4 Review** page 3 of 4

**3a** Maria is planning to make friendship bracelets to sell at the farmers’ market. Each bracelet costs \$1.25 to make. Use the ratio table to show your strategy for finding the cost to make 19 bracelets. **Work will vary. Example shown.**

<b>Number of Bracelets</b>	1	<b>10</b>	<b>20</b>	<b>19</b>					
<b>Cost</b>	\$1.25	<b>\$12.50</b>	<b>\$25</b>	<b>\$23.75</b>					

The cost to make 19 bracelets is **\$23.75**

**b** Use the ratio table to show your strategy for finding how many bracelets Maria can make for \$126.25. **Work will vary. Example shown.**

<b>Number of Bracelets</b>	1	<b>100</b>	<b>101</b>						
<b>Cost</b>	\$1.25	<b>\$125</b>	<b>\$126.50</b>						

Maria can make **101** bracelets for \$126.25.

**4** Solve the problems below. Use the standard algorithm for one problem. Use any strategies for the other problems. Show your work. Explain your choice of strategy.

$$\begin{array}{r} 26 \\ \times 36 \\ \hline 936 \end{array}$$

$$\begin{array}{r} 28 \\ \times 36 \\ \hline 1,008 \end{array}$$

$$\begin{array}{r} 36 \\ \times 36 \\ \hline 1,296 \end{array}$$

<p><b>Why did you choose this strategy?</b></p>	<p><b>Why did you choose this strategy?</b></p>	<p><b>Why did you choose this strategy?</b></p>
<p><b>Strategies and explanations will vary.</b></p>		

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**Unit 4 Review** page 4 of 4

- 5** Fill in the boxes to complete each multiplication combination below using the standard algorithm.

$$\begin{array}{r}
 \phantom{0} \overset{1}{\underset{1}{4}}6 \\
 \times \phantom{0}32 \\
 \hline
 \phantom{0} \phantom{0}92 \\
 + \phantom{0}1380 \\
 \hline
 \phantom{0}1,472
 \end{array}$$

$$\begin{array}{r}
 \phantom{00} \overset{1}{5}06 \\
 \times \phantom{00}31 \\
 \hline
 \phantom{00} \phantom{0}506 \\
 + \phantom{00}15,180 \\
 \hline
 \phantom{00}15,686
 \end{array}$$

$$\begin{array}{r}
 \phantom{000} \overset{1}{\underset{1}{\underset{1}{6}}}22 \\
 \times \phantom{000}77 \\
 \hline
 \phantom{000} \phantom{00}4,354 \\
 + \phantom{000}43,540 \\
 \hline
 \phantom{000}47,894
 \end{array}$$