

Grade 4 Math
Remote Learning Student Directions – Paper Option

Math resources are being sent home with your fourth-grade student to provide daily opportunities to engage in math learning. You will find the outline below lists the various materials and suggestions for utilizing the resources.

Assignments

Week One	Week 1 – Add, Subtract, & Multiply Packet <ul style="list-style-type: none">• Complete 2 – 3 pages of the packet per day
Week Two	Week 2 – Multiply & Divide Multi-Digit Whole Numbers Packet <ul style="list-style-type: none">• Complete 2 – 3 pages of the packet per day
Week Three	Week 3 – Fractions Packet <ul style="list-style-type: none">• Complete 3 – 4 pages of the packet per day

Additional Resources

MCAP Practice Test

Optional Digital Resources

DreamBox Learning Lessons	<p>6 to 8 lessons per week of remote learning</p> <p>Students must first log into BCPS One using their own username and password, and then access DreamBox through the Instructional and Productivity Tools Icon.</p> <ol style="list-style-type: none"> www.bcpsone.bcps.org Instructional and Productivity Tools DreamBox Learning icon
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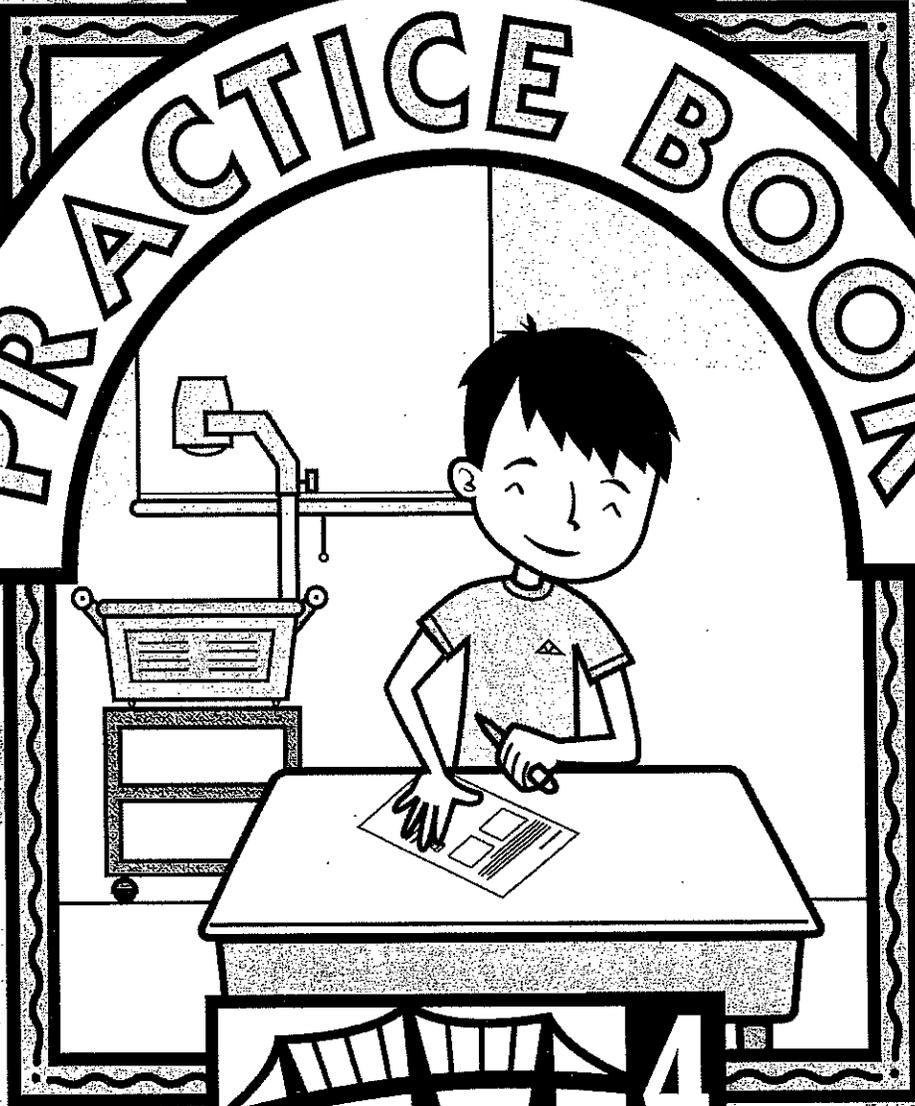
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Week 1: Add, Subtract, Multiply

Math

BLACKLINES

PRACTICE BOOK



BRIDGES IN MATHEMATICS

Martha Ruttle



The MATH LEARNING CENTER

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Multi-Digit Addition Review
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1 Solve the problems below. Show all your work.

$$\begin{array}{r} 120 \\ + 207 \\ \hline \end{array}$$

$$\begin{array}{r} 459 \\ + 320 \\ \hline \end{array}$$

$$\begin{array}{r} 533 \\ + 429 \\ \hline \end{array}$$

$$\begin{array}{r} 332 \\ + 845 \\ \hline \end{array}$$

$$\begin{array}{r} 457 \\ + 372 \\ \hline \end{array}$$

$$\begin{array}{r} 538 \\ + 975 \\ \hline \end{array}$$

$$\begin{array}{r} 347 \\ 576 \\ + 423 \\ \hline \end{array}$$

$$\begin{array}{r} 1,438 \\ 2,754 \\ + 3,626 \\ \hline \end{array}$$

2 Rewrite these problems in vertical form. Then solve them. Show all your work.

<p>example $583 + 645$</p> $\begin{array}{r} 1 \\ 583 \\ + 645 \\ \hline 1,228 \end{array}$	<p>a $276 + 986$</p>	<p>b $362 + 1,534$</p>
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 **CHALLENGE**

3 Use two numbers from the box to complete each addition problem below. You will use some numbers more than once.

- | | | | | | |
|----|-----|-----|-----|-----|-----|
| 97 | 204 | 297 | 405 | 498 | 607 |
|----|-----|-----|-----|-----|-----|

$$\begin{array}{r} \boxed{} \\ + \boxed{} \\ \hline 301 \end{array}$$

$$\begin{array}{r} \boxed{} \\ + \boxed{} \\ \hline 394 \end{array}$$

$$\begin{array}{r} \boxed{} \\ + \boxed{} \\ \hline 1,012 \end{array}$$

$$\begin{array}{r} \boxed{} \\ + \boxed{} \\ \hline 1,105 \end{array}$$

$$\begin{array}{r} \boxed{} \\ + \boxed{} \\ \hline 702 \end{array}$$

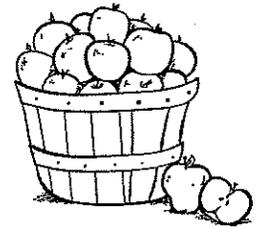
NAME _____

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Addition Story Problems

Solve the problems below. Show all your work.

1 Last week, Jose picked 325 pounds of apples. Gloria picked 236 pounds of apples. How many pounds of apples did Jose and Gloria pick altogether? Show all your work.

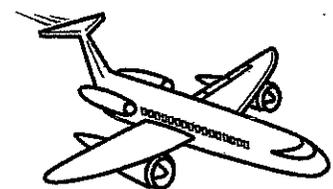


2 The year Marcus was born, there were 2,308 people living in the town where his parents lived. Now Marcus is nine years old, and the town has 856 more people than it did when he was born. How many people live in the town where Marcus lives? Show all your work.



CHALLENGE

3 Fran is flying in an airplane. Right now it is 13,500 feet above the ground. It will go 16,800 more feet before it stops going any higher. How high will the airplane be then? Show all your work.



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Multi-Digit Subtraction Review

1 Solve the problems below. Show all your work.

$$\begin{array}{r} 649 \\ - 514 \\ \hline \end{array}$$

$$\begin{array}{r} 2,964 \\ - 723 \\ \hline \end{array}$$

$$\begin{array}{r} 482 \\ - 391 \\ \hline \end{array}$$

$$\begin{array}{r} 3,851 \\ - 1,470 \\ \hline \end{array}$$

$$\begin{array}{r} 4,582 \\ - 950 \\ \hline \end{array}$$

$$\begin{array}{r} 6,739 \\ - 547 \\ \hline \end{array}$$

$$\begin{array}{r} 385 \\ - 197 \\ \hline \end{array}$$

$$\begin{array}{r} 7,846 \\ - 4,928 \\ \hline \end{array}$$

2 Rewrite these problems in vertical form. Solve them and then add the numbers to check your answer. Show all your work.

<p>example $906 - 458$</p> $\begin{array}{r} 89 \\ 906 \\ - 458 \\ \hline 448 \end{array}$ $\begin{array}{r} 11 \\ 458 \\ + 448 \\ \hline 906 \end{array}$	<p>a $607 - 569$</p>	<p>b $8,046 - 753$</p>
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CHALLENGE

3 Complete these problems. There is more than one correct solution to the first two problems.

a

$$\begin{array}{r} \square 0 1 \\ - \square \square \\ \hline \square 6 7 \end{array}$$

b

$$\begin{array}{r} \square 7 \square \\ - \square \square 2 \\ \hline 3 \square \square \end{array}$$

c

$$\begin{array}{r} 8 6 \square \\ - \square 4 1 \\ \hline 5 1 \square \end{array}$$

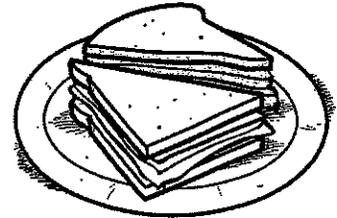
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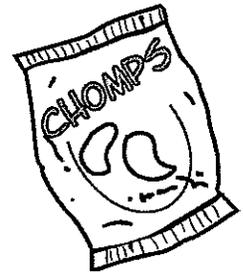
Subtraction Story Problems

Solve the problems below. Show all your work.

1 Last week the cafeteria served 486 breakfast sandwiches. This week they served 538 breakfast sandwiches. How many more breakfast sandwiches did they serve this week?

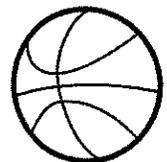


2 There were 6,742 bags of potato chips stored in the cafeteria. They served 781 of them at lunch. How many bags of potato chips are left?



CHALLENGE

3 At the basketball game last night, the home team was losing by 48 points at half time, so fans started to leave. If there were 18,862 people at the game when it started and 6,946 went home at half time, how many people were still at the game for the second half?



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Add, Subtract & Multiply

1 Solve the addition and subtraction problems below Show all your work.

$$\begin{array}{r} \$1.74 \\ + \$2.25 \\ \hline \end{array}$$

$$\begin{array}{r} \$20.71 \\ + \$6.55 \\ \hline \end{array}$$

$$\begin{array}{r} \$43.53 \\ + \$7.18 \\ \hline \end{array}$$

$$\begin{array}{r} \$8.14 \\ + \$7.03 \\ \hline \end{array}$$

$$\begin{array}{r} \$5.32 \\ - \$2.81 \\ \hline \end{array}$$

$$\begin{array}{r} \$3.42 \\ - \$1.84 \\ \hline \end{array}$$

$$\begin{array}{r} \$54.66 \\ - \$6.93 \\ \hline \end{array}$$

$$\begin{array}{r} \$3.04 \\ - \$1.26 \\ \hline \end{array}$$

2 Rewrite these problems in vertical form. Then solve them. Show all your work.

<p>example $\\$2.96 + \\8.45</p> $\begin{array}{r} 11 \\ 2.96 \\ + \$8.45 \\ \hline \$11.41 \end{array}$	<p>a $\\$4.72 + \\2.39</p>	<p>b $\\$506.00 - \\3.57</p>
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3 Complete these multiplication problems.

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 9 \\ \hline \end{array}$$

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

$$\begin{array}{r} 2 \\ \times 10 \\ \hline \end{array}$$

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Shopping Problems

Solve the problems below. Show all your work.

1 George, Nico, and Brandon went to the store. George spent \$1.86 on fruit. Nico spent \$2.03 on a drink. Brandon spent \$1.45 on candy. How much did they spend altogether?

2 Emma had \$5.80 in her pocket when she went to the store. If she spent \$3.97, how much money did she have left?



CHALLENGE

3 Susie has three brothers who are triplets. For their birthday, she bought each brother a rubber ball that cost 71¢ and a T-shirt that cost \$12.99. How much did she spend altogether on their birthday presents?



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Multiplication & Division Facts

1 Solve the problems below.

$$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

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

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 8 \\ \hline \end{array}$$

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

$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

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

$$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$$

$63 \div 7 = \underline{\quad\quad}$

$42 \div 7 = \underline{\quad\quad}$

$36 \div 4 = \underline{\quad\quad}$

$20 \div 5 = \underline{\quad\quad}$

$16 \div 8 = \underline{\quad\quad}$

$18 \div 3 = \underline{\quad\quad}$

$6 \div 3 = \underline{\quad\quad}$

$14 \div 2 = \underline{\quad\quad}$

2 Fill in the missing numbers.

$$\begin{array}{r} 6 \\ \times 3 \\ \hline \square \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \square \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \square \end{array}$$

$$\begin{array}{r} 8 \\ \times 4 \\ \hline \square \end{array}$$

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

$$\begin{array}{r} 3 \\ \times \square \\ \hline 6 \end{array}$$

$$\begin{array}{r} 2 \\ \times \square \\ \hline 10 \end{array}$$

$$\begin{array}{r} \square \\ \times 5 \\ \hline 15 \end{array}$$

$$\begin{array}{r} \square \\ \times 8 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 9 \\ \times \square \\ \hline 72 \end{array}$$



CHALLENGE

3 Use words and/or numbers to show how you could use the answer to 4×8 to solve 4×16 .

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All in the Family

1 Fill in the missing number in each triangle. Then write the facts in the fact family.

<p>example</p> <div style="text-align: center;"> </div> $\begin{array}{r} 2 \times 8 = 16 \\ 8 \times 2 = 16 \\ 16 \div 8 = 2 \\ 16 \div 2 = 8 \end{array}$	<p>a</p> <div style="text-align: center;"> </div> $\begin{array}{r} ___ \times ___ = ___ \\ ___ \times ___ = ___ \\ ___ \div ___ = ___ \\ ___ \div ___ = ___ \end{array}$	<p>b</p> <div style="text-align: center;"> </div> $\begin{array}{r} ___ \times ___ = ___ \\ ___ \times ___ = ___ \\ ___ \div ___ = ___ \\ ___ \div ___ = ___ \end{array}$
<p>c</p> <div style="text-align: center;"> </div> $\begin{array}{r} ___ \times ___ = ___ \\ ___ \times ___ = ___ \\ ___ \div ___ = ___ \\ ___ \div ___ = ___ \end{array}$	<p>d</p> <div style="text-align: center;"> </div> $\begin{array}{r} ___ \times ___ = ___ \\ ___ \times ___ = ___ \\ ___ \div ___ = ___ \\ ___ \div ___ = ___ \end{array}$	<p>e</p> <div style="text-align: center;"> </div> $\begin{array}{r} ___ \times ___ = ___ \\ ___ \times ___ = ___ \\ ___ \div ___ = ___ \\ ___ \div ___ = ___ \end{array}$



CHALLENGE

2 Use multiplication and division to find the secret path through each maze. You can only move one space up, down, over, or diagonally each time. Write two equations to explain the path through the maze.

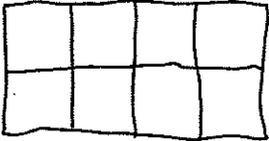
<p>example</p> <div style="text-align: center;"> </div> <p>$3 \times 8 = 24$ $24 \div 6 = 4$</p>	<p>a</p> <div style="text-align: center;"> </div>	<p>b</p> <div style="text-align: center;"> </div>
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Arrays & Factors

1 Draw and label a rectangular array to show two factors for each number. Do not use 1 as one of your factors. Then write the fact family that goes with your array.

<p>example 8</p> <div style="text-align: center;"> 4  </div> $\begin{array}{r} 2 \times 4 = 8 \\ 4 \times 2 = 8 \\ 8 \div 4 = 2 \\ 8 \div 2 = 4 \end{array}$	<p>a 16</p> $\begin{array}{r} ___ \times ___ = ___ \\ ___ \times ___ = ___ \\ ___ \div ___ = ___ \\ ___ \div ___ = ___ \end{array}$	<p>b 18</p> $\begin{array}{r} ___ \times ___ = ___ \\ ___ \times ___ = ___ \\ ___ \div ___ = ___ \\ ___ \div ___ = ___ \end{array}$
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2 List all the factors of each number below.

ex 12	$\overbrace{1, 2, 3, 4, 6, 12}$	a 16	
b 17		c 24	
d 9		e 36	

3a Circle the prime number(s) in problem 2.

b Draw a square around the square number(s) in problem 2.



CHALLENGE

4 Fill in the missing digits in the problems below.

example

$$\begin{array}{r} 7\cancel{8} \boxed{3} 4 \\ - 69 \boxed{3} \\ \hline \boxed{1} 4 1 \end{array}$$

a

$$\begin{array}{r} 3 \boxed{} 6 \\ + \boxed{} 9 \boxed{} \\ \hline 7 0 4 \end{array}$$

b

$$\begin{array}{r} 6 2 3 \\ - \boxed{} 4 \boxed{} \\ \hline 1 \boxed{} 7 \end{array}$$

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Multiplication & Division Practice

1 Solve the following multiplication and division problems.

$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

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

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$$

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

$32 \div 4 = \underline{\quad\quad}$ $20 \div 5 = \underline{\quad\quad}$ $16 \div 8 = \underline{\quad\quad}$ $24 \div 3 = \underline{\quad\quad}$

$24 \div 4 = \underline{\quad\quad}$ $15 \div 3 = \underline{\quad\quad}$ $40 \div 5 = \underline{\quad\quad}$ $36 \div 6 = \underline{\quad\quad}$

2 Fill in the missing numbers.

$$\begin{array}{r} 9 \\ \times 7 \\ \hline \square \end{array}$$

$$\begin{array}{r} 3 \\ \times 0 \\ \hline \square \end{array}$$

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

$$\begin{array}{r} 1 \\ \times 5 \\ \hline \square \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \square \end{array}$$

$$\begin{array}{r} 7 \\ \times \square \\ \hline 4 \ 2 \end{array}$$

$$\begin{array}{r} 5 \\ \times \square \\ \hline 4 \ 0 \end{array}$$

$$\begin{array}{r} \square \\ \times 8 \\ \hline 6 \ 4 \end{array}$$

$$\begin{array}{r} \square \\ \times 4 \\ \hline 1 \ 6 \end{array}$$

$$\begin{array}{r} 3 \\ \times \square \\ \hline 1 \ 8 \end{array}$$

3 Solve the following multiplication problems.

$$\begin{array}{r} 4 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1,000 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 1,000 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 100 \\ \hline \end{array}$$

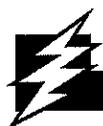
$$\begin{array}{r} 5 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 1,000 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 1,000 \\ \hline \end{array}$$



CHALLENGE

4 Fill in the missing numbers.

$300 \div \underline{\quad\quad} = 3$

$8,000 \div \underline{\quad\quad} = 1,000$

$40 \div \underline{\quad\quad} = 4$

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Addition & Multiplication Puzzles

1 Complete the addition puzzle box below. The sums of the rows and the diagonals are in bold boxes.

example			213
125	25	50	200
50	150	33	233
13	25	350	388
			625

a			225
	13		179
80		30	160
75	13	50	
			166

2 Complete the multiplication puzzle box below. The products of the rows and the diagonals are in bold boxes.

example			2,000
10	2	1	20
2	2	100	400
1,000	3	2	6,000
			40

a			60
100		3	600
		1,000	8,000
	3	2	60
			400

3 Complete each equation below.

ex $2 \times \underline{1} \times 1,000 = 2,000$

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

d $3 \times \underline{\hspace{2cm}} \times 10 = 60$

a $\underline{\hspace{2cm}} \times 4 \times 100 = 800$

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

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

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Multiplication Puzzles

Complete the multiplication puzzle boxes below. The products of the rows and the diagonals are in bold boxes.

<p>example</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td></td><td></td><td></td><td style="border: 1px solid black; text-align: center;">42</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">1</td><td style="border: 1px solid black; text-align: center;">0</td><td style="border: 1px solid black; text-align: center;">2</td><td style="border: 1px solid black; text-align: center;">0</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">6</td><td style="border: 1px solid black; text-align: center;">3</td><td style="border: 1px solid black; text-align: center;">3</td><td style="border: 1px solid black; text-align: center;">54</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">7</td><td style="border: 1px solid black; text-align: center;">1</td><td style="border: 1px solid black; text-align: center;">8</td><td style="border: 1px solid black; text-align: center;">56</td> </tr> <tr> <td></td><td></td><td></td><td style="border: 1px solid black; text-align: center;">24</td> </tr> </table>				42	1	0	2	0	6	3	3	54	7	1	8	56				24	<p>1</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td></td><td></td><td></td><td style="border: 1px solid black; text-align: center;">60</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">3</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black;"></td><td style="border: 1px solid black; text-align: center;">75</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">7</td><td style="border: 1px solid black; text-align: center;">2</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black; text-align: center;">42</td> </tr> <tr> <td style="border: 1px solid black; text-align: center;">6</td><td style="border: 1px solid black; text-align: center;">2</td><td style="border: 1px solid black;"></td><td style="border: 1px solid black; text-align: center;">72</td> </tr> <tr> <td></td><td></td><td></td><td style="border: 1px solid black; text-align: center;">36</td> </tr> </table>				60	3			75	7	2		42	6	2		72				36
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5	25		250																																						
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NAME _____

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Multiplication & Division Puzzles

1 Fill in the missing numbers.

$$\begin{array}{r} 7 \\ \times \square \\ \hline 42 \end{array}$$

$$\begin{array}{r} \square \\ \times 6 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 9 \\ \times \square \\ \hline 81 \end{array}$$

$$\begin{array}{r} \square \\ \times 3 \\ \hline 24 \end{array}$$

$$\begin{array}{r} \square \\ \times 8 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 5 \\ \times \square \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ \times \square \\ \hline 45 \end{array}$$

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

$$\begin{array}{r} 6 \\ \times \square \\ \hline 36 \end{array}$$

$$\begin{array}{r} \square \\ \times 3 \\ \hline 27 \end{array}$$

2 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.

<p>example</p> <div style="text-align: center;"> <p>start</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="padding: 5px;">3</td><td style="padding: 5px;">4</td><td style="padding: 5px;">12</td></tr> <tr><td style="padding: 5px;">36</td><td style="padding: 5px;">6</td><td style="padding: 5px;">2</td></tr> <tr><td style="padding: 5px;">9</td><td style="padding: 5px;">4</td><td style="padding: 5px;">6</td></tr> </table> <p style="text-align: center;">end</p> <p style="text-align: center;"> $3 \times 4 = 12$ $12 \div 2 = 6$ $6 \times 6 = 36$ $36 \div 9 = 4$ </p> </div>	3	4	12	36	6	2	9	4	6	<p>a</p> <div style="text-align: center;"> <p>start</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="padding: 5px;">81</td><td style="padding: 5px;">6</td><td style="padding: 5px;">36</td></tr> <tr><td style="padding: 5px;">6</td><td style="padding: 5px;">9</td><td style="padding: 5px;">4</td></tr> <tr><td style="padding: 5px;">7</td><td style="padding: 5px;">42</td><td style="padding: 5px;">9</td></tr> </table> <p style="text-align: center;">end</p> </div>	81	6	36	6	9	4	7	42	9	<p>b</p> <div style="text-align: center;"> <p>start end</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="padding: 5px;">1</td><td style="padding: 5px;">3</td><td style="padding: 5px;">2</td></tr> <tr><td style="padding: 5px;">6</td><td style="padding: 5px;">2</td><td style="padding: 5px;">9</td></tr> <tr><td style="padding: 5px;">3</td><td style="padding: 5px;">18</td><td style="padding: 5px;">2</td></tr> </table> </div>	1	3	2	6	2	9	3	18	2
3	4	12																											
36	6	2																											
9	4	6																											
81	6	36																											
6	9	4																											
7	42	9																											
1	3	2																											
6	2	9																											
3	18	2																											



CHALLENGE

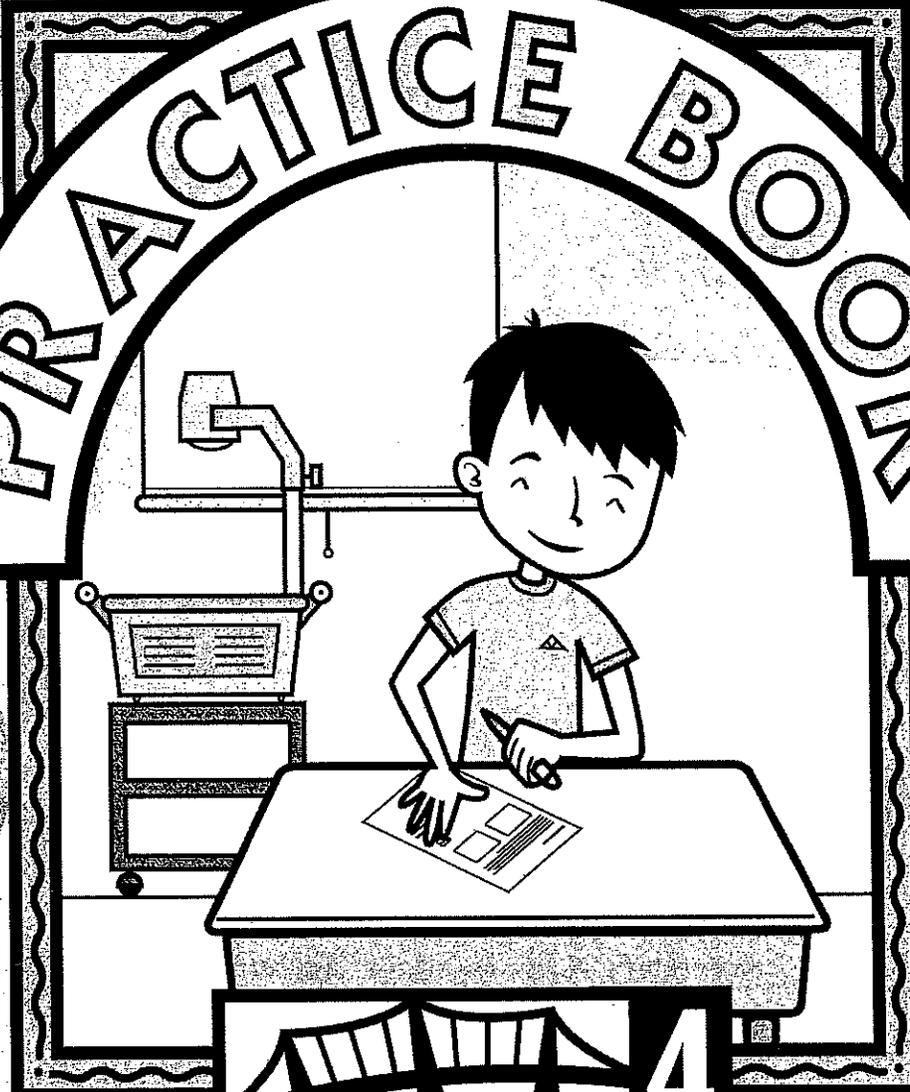
3 Complete the division table below.

÷	600	240	120	180	540	5,400	1,800	1,200
60								

Week 2: Multiply and Divide Math Whole #'s

BLACKLINES

PRACTICE BOOK



BRIDGES IN MATHEMATICS 4

Martha Ruttle



The MATH LEARNING CENTER

NAME _____

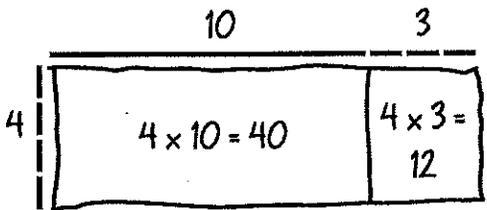
DATE _____

Week 9. Multiply and Divide

Math

Fill the Frames

Label each array frame below. Then fill it in with labeled rectangles. Write an addition equation to show how you got the total. Then write a multiplication equation to match the array.

Labeled Array Frame & Rectangle	Addition Equation	Multiplication Equation
<p>example</p> 	$40 + 12 = 52$	$4 \times 13 = 52$
<p>1</p> 		
<p>2</p> 		
<p>3</p> 		

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Multiplying by 10, 100 & 1,000

1 Multiply by 10, 100, and 1,000. Some of the problems below are already done for you as examples.

$$\begin{array}{r} 10 \\ \times 3 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \times 2 \\ \hline 200 \end{array}$$

$$\begin{array}{r} 100 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1,000 \\ \times 2 \\ \hline 2,000 \end{array}$$

$$\begin{array}{r} 1,000 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 1,000 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1,000 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 100 \\ \times 3 \\ \hline \end{array}$$

2 Fill in the missing numbers.

$$\begin{array}{r} 10 \\ \times 8 \\ \hline \square \end{array}$$

$$\begin{array}{r} 10 \\ \times 4 \\ \hline \square \end{array}$$

$$\begin{array}{r} 100 \\ \times 7 \\ \hline \square \end{array}$$

$$\begin{array}{r} 100 \\ \times 5 \\ \hline \square \end{array}$$

$$\begin{array}{r} 1,000 \\ \times 3 \\ \hline \square \end{array}$$

$$\begin{array}{r} 1,000 \\ \times 5 \\ \hline \square \end{array}$$

$$\begin{array}{r} \square \\ \times 9 \\ \hline 9,000 \end{array}$$

$$\begin{array}{r} 100 \\ \times \square \\ \hline 600 \end{array}$$

$$\begin{array}{r} \square \\ \times 100 \\ \hline 500 \end{array}$$

$$\begin{array}{r} \square \\ \times 10 \\ \hline 80 \end{array}$$

$$\begin{array}{r} \square 5 \\ \times \square \\ \hline 500 \end{array}$$

$$\begin{array}{r} \square 7 \\ \times \square \\ \hline 70 \end{array}$$



CHALLENGE

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

$$\begin{array}{r} \square \\ \times 40 \\ \hline 400 \end{array}$$

$$\begin{array}{r} \square \\ \times 60 \\ \hline 6,000 \end{array}$$

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Using Partial Products to Solve Multiplication Problems

Use partial products to solve each multiplication problem below.

Fill in the array to show the partial products.	Use numbers to show your work.
<p>example</p> <div style="text-align: center;"> 23 </div>	$\begin{array}{r} 23 \\ \times 6 \\ \hline 6 \times 20 = 120 \\ 6 \times 3 = + 18 \\ \hline 138 \end{array}$
<p>1</p> <div style="text-align: center;"> 24 </div>	$\begin{array}{r} 24 \\ \times 7 \\ \hline \end{array}$
<p>2</p> <div style="text-align: center;"> 36 </div>	$\begin{array}{r} 36 \\ \times 6 \\ \hline \end{array}$
<p>3</p> <div style="text-align: center;"> 47 </div>	$\begin{array}{r} 47 \\ \times 4 \\ \hline \end{array}$

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Using the Standard Multiplication Algorithm

1 Use the standard algorithm to solve each multiplication problem.

ex $\begin{array}{r} 2 \\ 34 \\ \times 7 \\ \hline 238 \end{array}$	a $\begin{array}{r} 43 \\ \times 6 \\ \hline \end{array}$	b $\begin{array}{r} 28 \\ \times 4 \\ \hline \end{array}$	c $\begin{array}{r} 59 \\ \times 4 \\ \hline \end{array}$
d $\begin{array}{r} 37 \\ \times 3 \\ \hline \end{array}$	e $\begin{array}{r} 84 \\ \times 3 \\ \hline \end{array}$	f $\begin{array}{r} 33 \\ \times 8 \\ \hline \end{array}$	g $\begin{array}{r} 68 \\ \times 5 \\ \hline \end{array}$

2 Solve the problems below using the standard algorithm. Show your work.

ex $\begin{array}{r} 11 \\ 164 \\ \times 3 \\ \hline 492 \end{array}$	a $\begin{array}{r} 137 \\ \times 3 \\ \hline \end{array}$	b $\begin{array}{r} 382 \\ \times 7 \\ \hline \end{array}$	c $\begin{array}{r} 485 \\ \times 6 \\ \hline \end{array}$
d $\begin{array}{r} 146 \\ \times 4 \\ \hline \end{array}$	e $\begin{array}{r} 232 \\ \times 6 \\ \hline \end{array}$	f $\begin{array}{r} 143 \\ \times 5 \\ \hline \end{array}$	g $\begin{array}{r} 406 \\ \times 5 \\ \hline \end{array}$



CHALLENGE

h $\begin{array}{r} 1,243 \\ \times 5 \\ \hline \end{array}$	i $\begin{array}{r} 3,531 \\ \times 4 \\ \hline \end{array}$	j $\begin{array}{r} 4,325 \\ \times 4 \\ \hline \end{array}$	k $\begin{array}{r} 3,478 \\ \times 9 \\ \hline \end{array}$
--	--	--	--

NAME _____

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Two Different Multiplication Methods

1 Solve each problem below. Use the standard algorithm at least two times. Use the partial products method at least two times.

<p>ex a standard algorithm</p> $\begin{array}{r} 12 \\ 135 \\ \times 4 \\ \hline 540 \end{array}$	<p>ex b partial product</p> $\begin{array}{r} 135 \\ \times 4 \\ \hline 4 \times 100 = 400 \\ 4 \times 30 = 120 \\ 4 \times 5 = + 20 \\ \hline 540 \end{array}$	<p>a</p> $\begin{array}{r} 28 \\ \times 8 \\ \hline \end{array}$	<p>b</p> $\begin{array}{r} 47 \\ \times 5 \\ \hline \end{array}$
<p>c</p> $\begin{array}{r} 56 \\ \times 3 \\ \hline \end{array}$	<p>d</p> $\begin{array}{r} 321 \\ \times 7 \\ \hline \end{array}$	<p>e</p> $\begin{array}{r} 482 \\ \times 6 \\ \hline \end{array}$	<p>f</p> $\begin{array}{r} 259 \\ \times 3 \\ \hline \end{array}$

2 Ramon bought 8 big cases of breakfast cereal. Each case held 12 boxes of cereal. Each box of cereal held 18 oz. of cereal. How many boxes of breakfast cereal did Ramon buy?

a Restate the question in your own words:

b Underline the information in the problem you do need to solve the problem.

c Cross out the information in the problem you don't need to solve the problem.

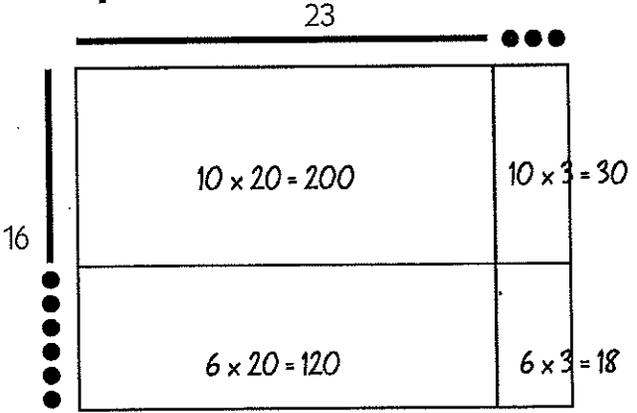
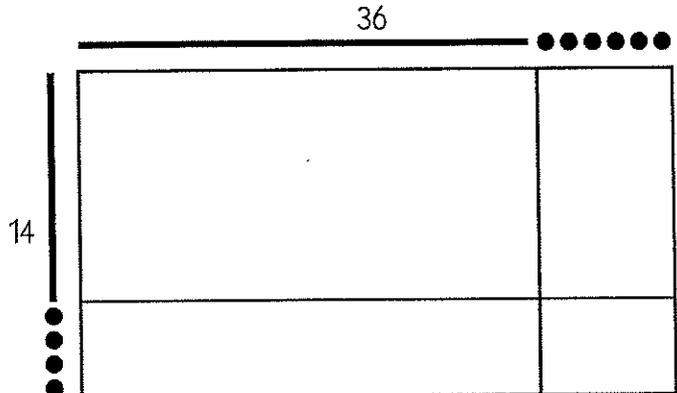
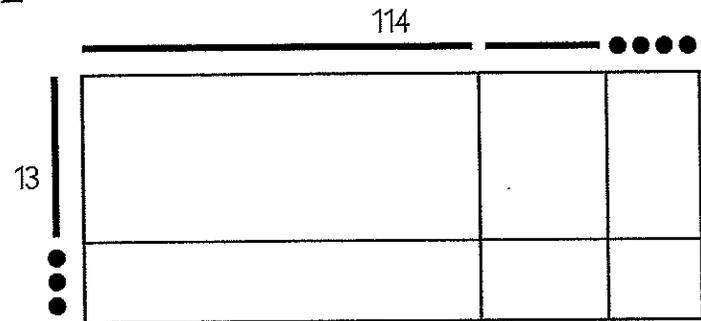
d Solve the problem. Show all your work.

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More Partial Products

Use partial products to solve each multiplication problem below.

Fill in the array to show the partial products.	Use numbers to show your work.
<p>example</p> 	$ \begin{array}{r} 23 \\ \times 16 \\ \hline 10 \times 20 = 200 \\ 10 \times 3 = 30 \\ 6 \times 20 = 120 \\ 6 \times 3 = 18 \\ \hline 368 \end{array} $
<p>1</p> 	$ \begin{array}{r} 36 \\ \times 14 \\ \hline \end{array} $
<p>2</p> 	$ \begin{array}{r} 114 \\ \times 13 \\ \hline \end{array} $

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Reasonable Estimates & Partial Products

1 Fill in the bubble to show the most reasonable estimate for each multiplication problem.

a 23×21	<input type="radio"/> 400	<input type="radio"/> 600	<input type="radio"/> 4,000	<input type="radio"/> 6,000
b 31×19	<input type="radio"/> 600	<input type="radio"/> 700	<input type="radio"/> 6,000	<input type="radio"/> 7,000
c 312×18	<input type="radio"/> 600	<input type="radio"/> 800	<input type="radio"/> 6,000	<input type="radio"/> 10,000
d 96×33	<input type="radio"/> 270	<input type="radio"/> 1,000	<input type="radio"/> 3,000	<input type="radio"/> 27,000

2 Use partial products to solve each problem below. Draw lines between the digits to show which numbers you multiplied.

<p>ex</p> $\begin{array}{r} 63 \\ \times 21 \\ \hline \end{array}$ <p> $20 \times 60 = 1,200$ $20 \times 3 = 60$ $1 \times 60 = 60$ $1 \times 3 = + 3$ $\hline 1,323$ </p>	<p>a</p> $\begin{array}{r} 27 \\ \times 46 \\ \hline \end{array}$	<p>b</p> $\begin{array}{r} 36 \\ \times 43 \\ \hline \end{array}$
<p>c</p> $\begin{array}{r} 29 \\ \times 67 \\ \hline \end{array}$	<p>d</p> $\begin{array}{r} 37 \\ \times 59 \\ \hline \end{array}$	<p>e</p> $\begin{array}{r} 47 \\ \times 56 \\ \hline \end{array}$

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Using the Standard Algorithm & Partial Products to Multiply

1 Solve these multiplication problems.

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

$$\begin{array}{r} 40 \\ \times 30 \\ \hline \end{array}$$

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

$$\begin{array}{r} 200 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 200 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 200 \\ \times 40 \\ \hline \end{array}$$

2 Solve these multiplication problems. Use the standard algorithm to solve two of them. Use partial products to solve the other two. Hint: *Use the answers above to make sure your answers are reasonable.*

<p>ex a Standard Algorithm</p> $\begin{array}{r} 21 \\ \times 32 \\ \hline 184 \\ \times 36 \\ \hline 1,104 \\ + 5,520 \\ \hline 6,624 \end{array}$	<p>ex b Partial Products</p> $\begin{array}{r} 63 \\ \times 21 \\ \hline 20 \times 60 = 1,200 \\ 20 \times 3 = 60 \\ 1 \times 60 = 60 \\ 1 \times 3 = + 3 \\ \hline 1,323 \end{array}$
<p>a</p> $\begin{array}{r} 36 \\ \times 29 \\ \hline \end{array}$	<p>b</p> $\begin{array}{r} 43 \\ \times 38 \\ \hline \end{array}$
<p>c</p> $\begin{array}{r} 186 \\ \times 22 \\ \hline \end{array}$	<p>d</p> $\begin{array}{r} 207 \\ \times 35 \\ \hline \end{array}$

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Using the Standard Algorithm to Multiply Large Numbers

1 Solve these multiplication problems.

$$\begin{array}{r} 80 \\ \times 60 \\ \hline \end{array}$$

$$\begin{array}{r} 80 \\ \times 70 \\ \hline \end{array}$$

$$\begin{array}{r} 80 \\ \times 80 \\ \hline \end{array}$$

$$\begin{array}{r} 600 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 600 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 600 \\ \times 30 \\ \hline \end{array}$$

2 Solve these multiplication problems using the *standard algorithm*. Use the answers above to make sure your answers are reasonable.

<p>example</p> $\begin{array}{r} 21 \\ \cancel{52} \\ 184 \\ \times 36 \\ \hline 1,104 \\ + 5,520 \\ \hline 6,624 \end{array}$	<p>a</p> $\begin{array}{r} 78 \\ \times 76 \\ \hline \end{array}$
<p>b</p> $\begin{array}{r} 80 \\ \times 72 \\ \hline \end{array}$	<p>c</p> $\begin{array}{r} 78 \\ \times 59 \\ \hline \end{array}$
<p>d</p> $\begin{array}{r} 587 \\ \times 13 \\ \hline \end{array}$	<p>e</p> $\begin{array}{r} 602 \\ \times 26 \\ \hline \end{array}$

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Multiplication & Division Practice

1 Solve these multiplication problems using the standard algorithm.

<p>example</p> $\begin{array}{r} 21 \\ \cancel{52} \\ 184 \\ \times 36 \\ \hline 1,104 \\ +5,520 \\ \hline 6,624 \end{array}$	<p>a</p> $\begin{array}{r} 68 \\ \times 70 \\ \hline \end{array}$	<p>b</p> $\begin{array}{r} 507 \\ \times 23 \\ \hline \end{array}$	<p>c</p> $\begin{array}{r} 289 \\ \times 32 \\ \hline \end{array}$
<p>d</p> $\begin{array}{r} 356 \\ \times 32 \\ \hline \end{array}$	<p>e</p> $\begin{array}{r} 209 \\ \times 83 \\ \hline \end{array}$	<p>f</p> $\begin{array}{r} 447 \\ \times 25 \\ \hline \end{array}$	<p>g</p> $\begin{array}{r} 387 \\ \times 67 \\ \hline \end{array}$

2 Complete the following division facts.

$56 \div 7 = \underline{\quad}$

$81 \div 9 = \underline{\quad}$

$32 \div 4 = \underline{\quad}$

$42 \div 6 = \underline{\quad}$

$64 \div 8 = \underline{\quad}$

$35 \div 5 = \underline{\quad}$

$40 \div 5 = \underline{\quad}$

$21 \div 7 = \underline{\quad}$

$18 \div 3 = \underline{\quad}$



CHALLENGE

3 Solve the following problems mentally. Use the facts above to help if you want to.

$81 \div 3 = \underline{\quad}$

$42 \div 3 = \underline{\quad}$

$64 \div 4 = \underline{\quad}$

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Multi-Digit Multiplication Practice

1 Solve these multiplication problems.

$$\begin{array}{r} 70 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 70 \\ \times 40 \\ \hline \end{array}$$

$$\begin{array}{r} 70 \\ \times 50 \\ \hline \end{array}$$

$$\begin{array}{r} 700 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} 700 \\ \times 40 \\ \hline \end{array}$$

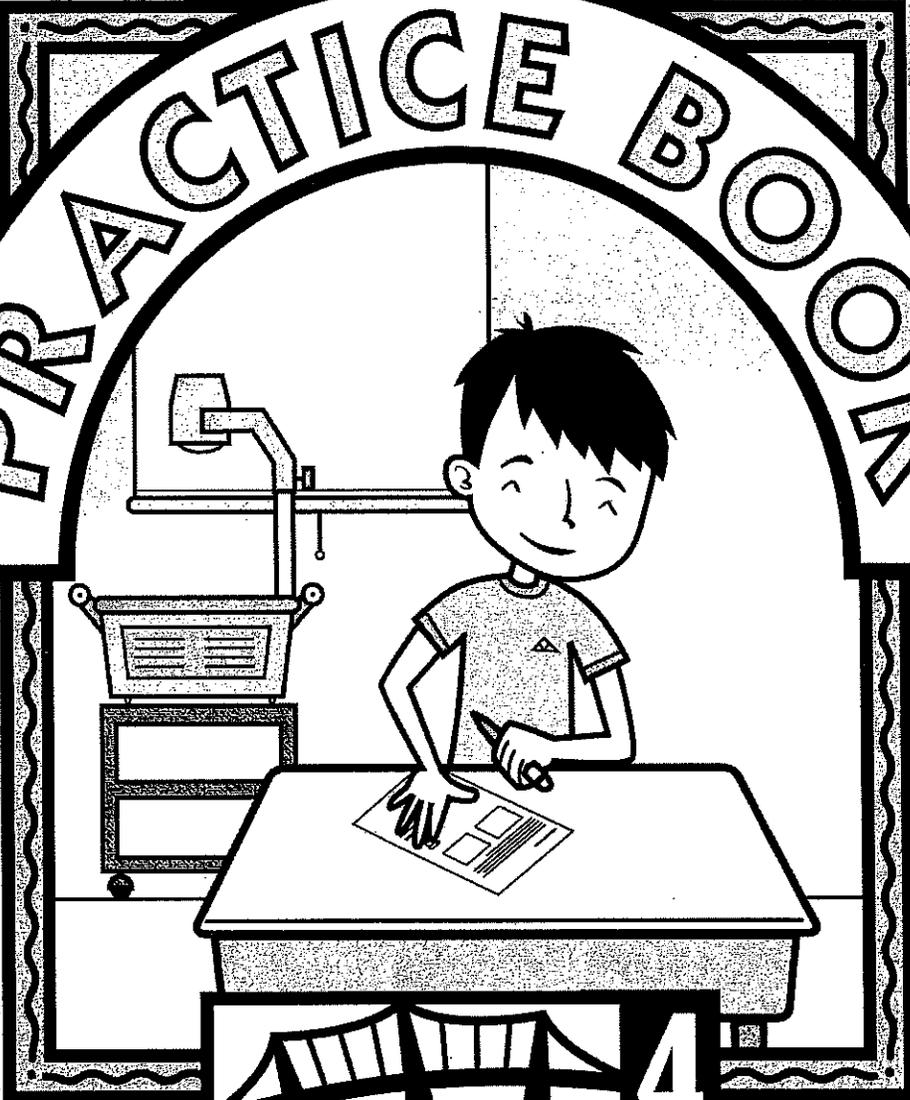
2 Solve these multiplication problems using the standard algorithm. Use the answers above to make sure your answers are reasonable.

<p>example</p> $\begin{array}{r} 21 \\ \cancel{52} \\ 184 \\ \times 36 \\ \hline 1,104 \\ + 5,520 \\ \hline 6,624 \end{array}$	<p>a</p> $\begin{array}{r} 73 \\ \times 52 \\ \hline \end{array}$
<p>b</p> $\begin{array}{r} 68 \\ \times 48 \\ \hline \end{array}$	<p>c</p> $\begin{array}{r} 67 \\ \times 36 \\ \hline \end{array}$
<p>d</p> $\begin{array}{r} 703 \\ \times 28 \\ \hline \end{array}$	<p>e</p> $\begin{array}{r} 689 \\ \times 40 \\ \hline \end{array}$

Week 3: Fractions Math

BLACKLINES

PRACTICE BOOK



4
BRIDGES IN MATHEMATICS

Martha Ruttle



The MATH LEARNING CENTER

NAME _____

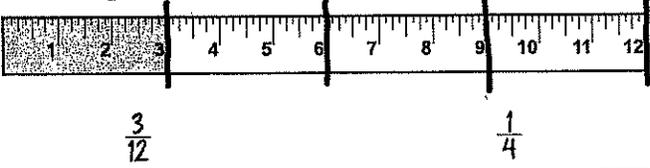
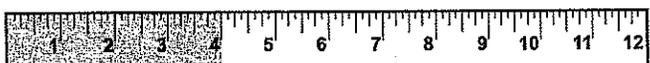
Fractions

DATE _____

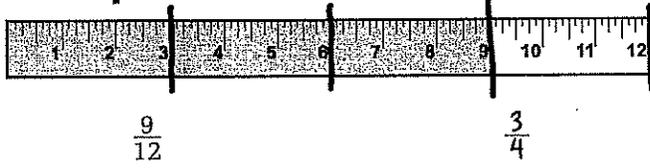
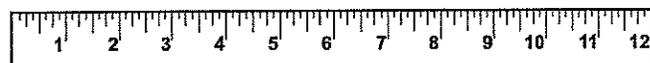
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Fractions of a Foot

1 Write two names for each fraction of a foot. You can draw on the rulers to help.

<p>example</p>  <p>_____</p>	<p>a</p>  <p>_____</p>
<p>b</p>  <p>_____</p>	<p>c</p>  <p>_____</p>

2 Shade the ruler to show each fraction of a foot. Then write another name for the fraction. You can draw lines to divide the rulers into equal parts.

<p>example</p>  <p>_____</p>	<p>a</p>  <p style="text-align: center;">$\frac{8}{12}$</p> <p>_____</p>
<p>b</p>  <p style="text-align: center;">$\frac{10}{12}$</p> <p>_____</p>	<p>c</p>  <p style="text-align: center;">$\frac{12}{12}$</p> <p>_____</p>
<p>d</p>  <p style="text-align: center;">$\frac{2}{6}$</p> <p>_____</p>	<p>e</p>  <p style="text-align: center;">$\frac{2}{3}$</p> <p>_____</p>

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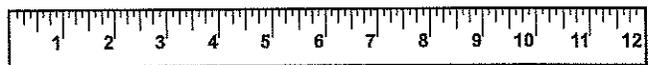
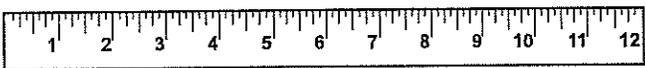
More Fractions of a Foot

1 Write the number of inches in each fraction of a foot. You can look at page 41 to help.

a $\frac{1}{2}$ of a foot is equal to _____ inches **b** $\frac{1}{4}$ of a foot is equal to _____ inches

c $\frac{1}{6}$ of a foot is equal to _____ inches **d** $\frac{1}{3}$ of a foot is equal to _____ inches

2 Write the number of inches in each fraction of a foot. Use the rulers below and the information in problem 1 to help. Then circle the greater fraction in each pair. If they are equal, circle them both.



example $\left(\frac{1}{2}\right)$ $\frac{1}{4}$ 6 inches 3 inches	a $\frac{1}{3}$ $\frac{1}{4}$
b $\frac{2}{3}$ $\frac{1}{2}$	c $\frac{1}{2}$ $\frac{3}{6}$
d $\frac{2}{3}$ $\frac{3}{4}$	e $\frac{1}{4}$ $\frac{2}{3}$

3 Write all the factors of each number. Hint: *Think about pairs of factors that multiply to make the number.*

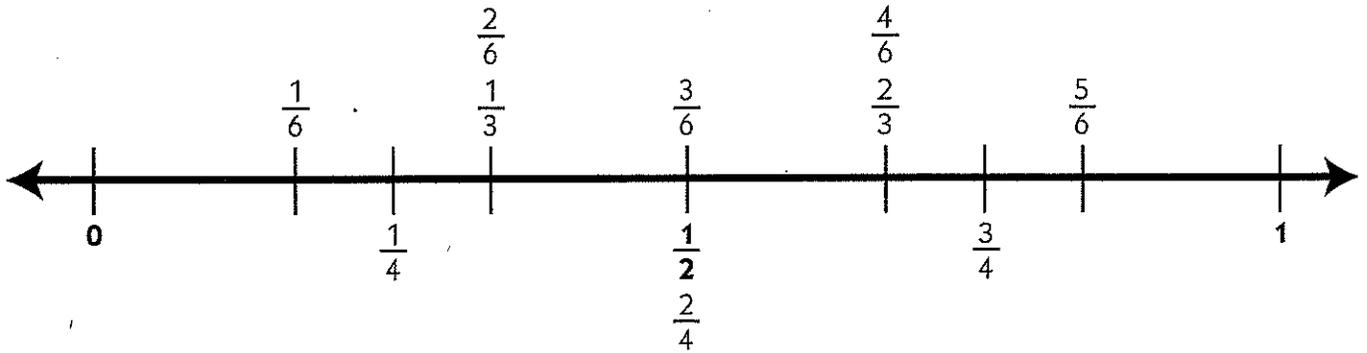
ex 18	$\overbrace{1, 2, 3, 6, 9, 18}$	a 12	
b 15		c 36	
d 60		 e 120	

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Comparing Fractions on a Number Line

When you are comparing fractions, it can help to think about how close those fractions are to landmarks like one whole and one-half. Use the number line to help complete the problems below.



1 Complete the table.

Circle the fraction that is greater than $\frac{1}{2}$.	Write a number sentence showing which fraction is greater.
example $\left(\frac{4}{6}\right)$ $\frac{1}{4}$	$\frac{4}{6} > \frac{1}{4}$
a $\frac{2}{6}$ $\frac{2}{3}$	
b $\frac{1}{3}$ $\frac{5}{6}$	

2 Complete the table.

Circle the fraction that is closest to 1.	Write a number sentence showing which fraction is greater.
a $\frac{3}{4}$ $\frac{2}{3}$	
b $\frac{5}{6}$ $\frac{2}{3}$	
c $\frac{3}{4}$ $\frac{5}{6}$	

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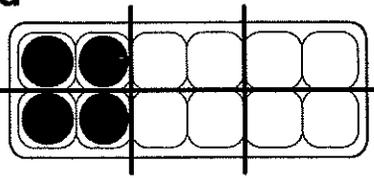
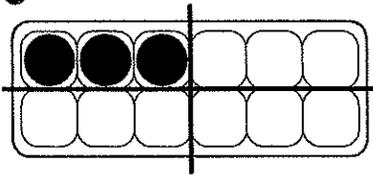
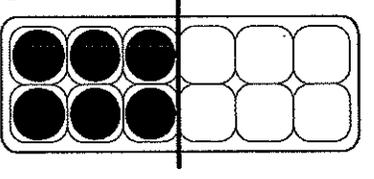
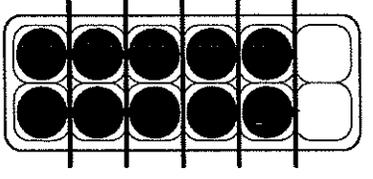
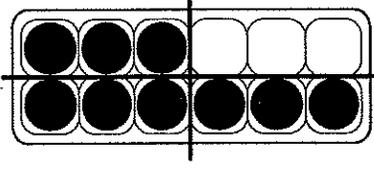
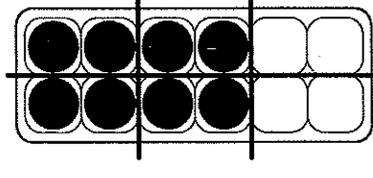
DATE _____

Egg Carton Fractions

1 Solve the following multiplication and division problems. They might help you think about the egg cartons in problem 2.

$12 \div 2 = \underline{\hspace{2cm}}$ $12 \div 3 = \underline{\hspace{2cm}}$ $12 \div 4 = \underline{\hspace{2cm}}$ $12 \div 6 = \underline{\hspace{2cm}}$
 $6 \times 3 = \underline{\hspace{2cm}}$ $4 \times 2 = \underline{\hspace{2cm}}$ $3 \times 3 = \underline{\hspace{2cm}}$ $2 \times 5 = \underline{\hspace{2cm}}$

2 Write a fraction to show the amount of each egg carton that is filled with eggs. The cartons are divided into equal parts for you.

<p>a</p>  <p style="text-align: right;">_____</p>	<p>b</p>  <p style="text-align: right;">_____</p>
<p>c</p>  <p style="text-align: right;">_____</p>	<p>d</p>  <p style="text-align: right;">_____</p>
<p>e</p>  <p style="text-align: right;">_____</p>	<p>f</p>  <p style="text-align: right;">_____</p>

3 Write greater than (>) or less than (<) to show which fraction is greater. If they are equal, write an equal sign (=).

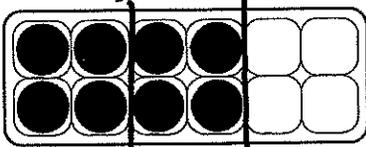
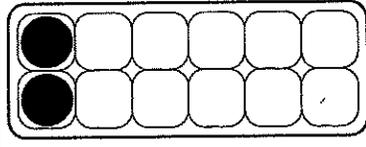
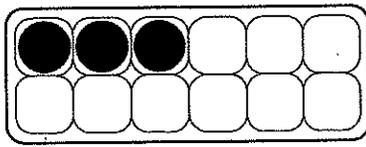
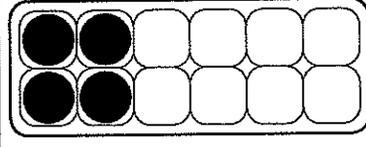
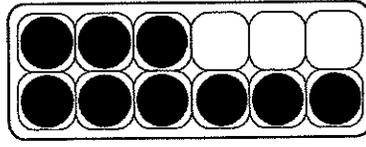
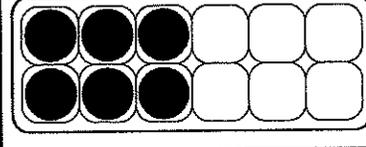
ex a $\frac{1}{4} < \frac{1}{2}$	ex b $\frac{1}{2} > \frac{1}{3}$	a $\frac{4}{6}$ $\frac{2}{3}$
b $\frac{1}{3}$ $\frac{1}{4}$	c $\frac{3}{4}$ $\frac{5}{6}$	d $\frac{1}{3}$ $\frac{3}{4}$
e $\frac{1}{2}$ $\frac{2}{4}$	f $\frac{2}{3}$ $\frac{3}{4}$	g $\frac{2}{6}$ $\frac{1}{3}$

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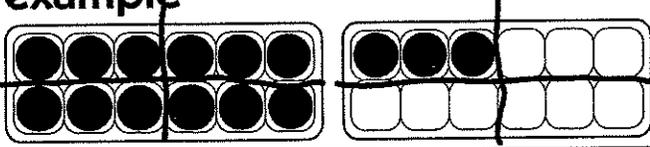
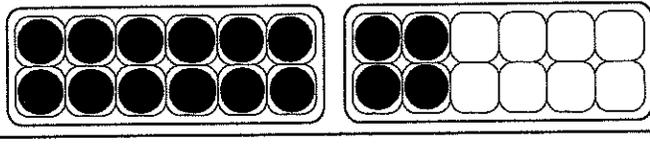
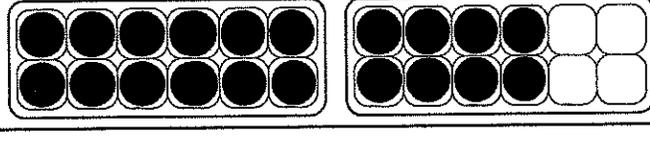
DATE _____

More Egg Carton Fractions

1 Write at least two fractions to show the part of each egg carton that is filled. Draw lines on the egg cartons to divide them into equal parts.

<p>example</p>  <p style="text-align: center;">$\frac{2}{3}$ $\frac{4}{6}$</p>	<p>a</p>  <p style="text-align: right;">_____</p>
<p>b</p>  <p style="text-align: right;">_____</p>	<p>c</p>  <p style="text-align: right;">_____</p>
<p>d</p>  <p style="text-align: right;">_____</p>	<p>e</p>  <p style="text-align: right;">_____</p>

2 Fractions can be greater than one. If a fraction greater than one is written as a whole number with a fraction, it is called a *mixed number*. If it is written as a fraction, it is called an *improper fraction*. Draw on the egg cartons to divide them into equal parts. Then write a mixed number and an improper fraction to show how many full egg cartons there are.

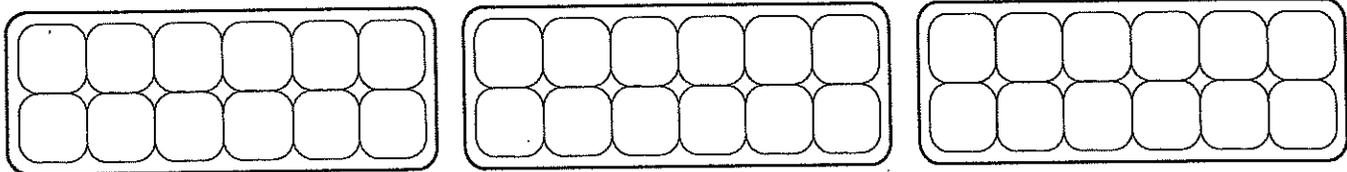
Egg Carton	Mixed Fraction	Improper Fraction
<p>example</p> 	$1\frac{1}{4}$	$\frac{5}{4}$
<p>a</p> 		
<p>b</p> 		

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Comparing & Ordering Fractions

1 Write the fractions below in order from least to greatest. You can use the egg cartons to help compare the fractions. Hint: *First figure out which fractions are greater than 1.*

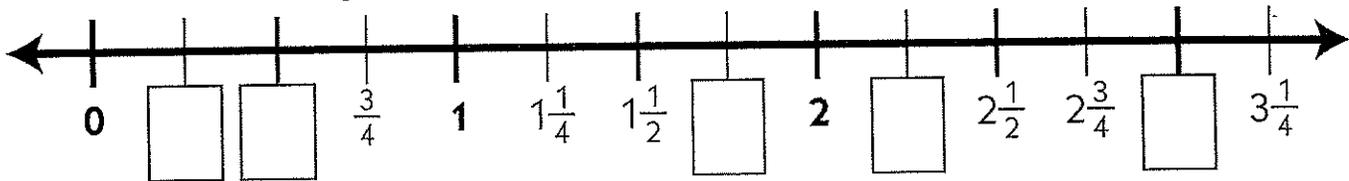


$\frac{1}{2}$	$\frac{5}{3}$	$\frac{3}{4}$	$\frac{1}{3}$	$\frac{7}{4}$	$\frac{2}{3}$	$\frac{3}{2}$	$\frac{1}{4}$
---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

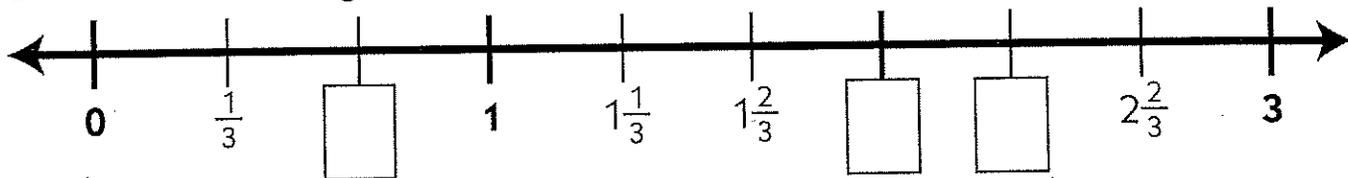
Least

Greatest

2 Fill in the missing fractions or whole numbers on the number line.



3 Fill in the missing fractions or whole numbers on the number line.



CHALLENGE

4 Which fraction is greater, $\frac{3}{4}$ or $\frac{8}{9}$? How do you know?

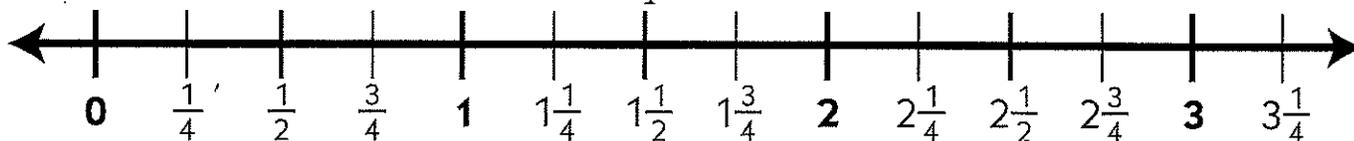
5 Which fraction is greater, $\frac{5}{4}$ or $\frac{10}{9}$? How do you know?

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Fractions & Mixed Numbers on a Number Line

1 Use the number line to answer the questions below.



example a What improper fraction is equal to $2\frac{1}{4}$? In other words, how many fourths are in two and one-fourth?	$\frac{9}{4}$
example b What number is halfway between 2 and 3?	$2\frac{1}{2}$
a What improper fraction is equal to $1\frac{1}{2}$? In other words, how many halves are in one and one-half?	
b What mixed number is equal to $\frac{6}{4}$?	
c Which is greater, $\frac{5}{4}$ or $1\frac{1}{2}$?	
d What mixed number is equal to $\frac{13}{4}$?	
e What improper fraction is equal to $2\frac{1}{2}$? In other words, how many halves are in two and one-half?	
f Which is greater, $1\frac{3}{4}$ or $\frac{8}{4}$?	



CHALLENGE

- What number is halfway between 0 and 1?
- What number is halfway between 0 and 3?
- What number is halfway between 0 and 17?

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Fraction Story Problems

Draw pictures to help answer the questions below. Circle your answer to each question.

1 Jim had a piece of string that was three-fourths of a foot long. Damien had a piece of string that was half a foot long. Whose string was longer? How much longer was it? Use a labeled sketch, as well as numbers and/or words, to prove your answer.

2 Rosa and Jasmine were trying to run a kilometer (1 kilometer is equal to 1000 meters). Rosa made it halfway. Jasmine made it one-third of the way. Who ran farther? Use a labeled sketch, as well as numbers and/or words, to prove your answer.



CHALLENGE

3 Lisa and her brother Darius were eating small pizzas. Their mom cut each pizza into fourths. Lisa figured out that she ate one and a half little pizzas. Darius counted that he ate seven fourths. Who ate more pizza? How much more? Use a labeled sketch, numbers, and/or words to prove your answer.

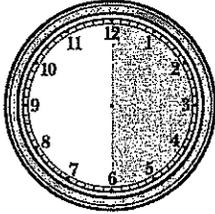


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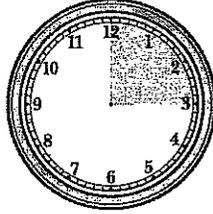
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Clock Fractions

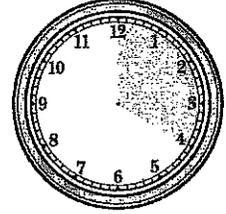
Sometimes people talk about time in fractions of an hour. For example, a quarter of an hour is 15 minutes. Half an hour is 30 minutes. The pictures below show some different fractions of an hour on clocks.



$\frac{1}{2}$ hour is 30 minutes



$\frac{1}{4}$ hour is 15 minutes



$\frac{1}{3}$ hour is 20 minutes

1 Problem 2 will be easier if you can divide 60 by some other numbers. Solve the division problems below.

a $60 \div 2 = \underline{\quad}$ **b** $60 \div 3 = \underline{\quad}$ **c** $60 \div 4 = \underline{\quad}$ **d** $60 \div 6 = \underline{\quad}$

2 Draw the following fractions on the clocks. Then write how many minutes are in each fraction of an hour.

Fractions of an Hour	Picture on a Clock	How Many Minutes?
a $\frac{3}{4}$		
b $\frac{2}{3}$		
c $\frac{1}{6}$		

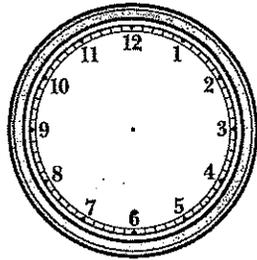
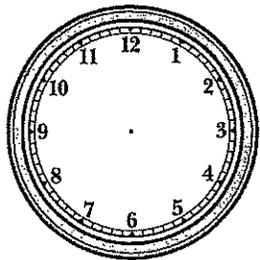
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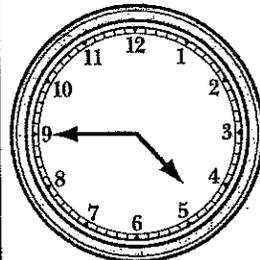
Time & Fractions

1 Use the clocks below to help answer the questions. Show all your work and circle your answers.

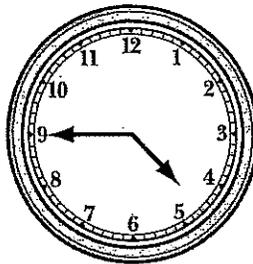
a Hiroko spent half an hour on her homework. Her sister Mai spent four-sixths of an hour on her homework. Who spent more time doing homework?



b The sisters started doing their homework at 4:45 in the afternoon. What time did Hiroko finish?

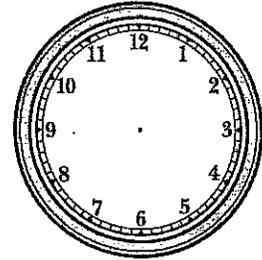
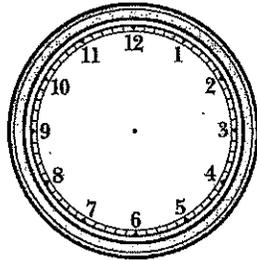
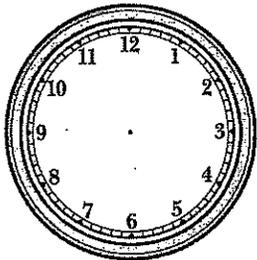
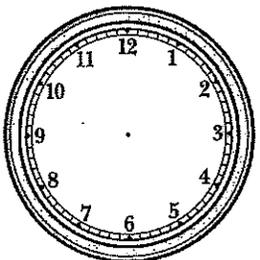


c What time did Mai finish?



CHALLENGE

2 It takes Ashley's family five-thirds of an hour to drive to her grandmother's house. It takes them eleven-sixths of an hour to drive to her aunt's house. Which drive takes more time for Ashley's family? How much more time? Show your work.



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Division Tables & Equivalent Fractions

1 Complete the division tables below.

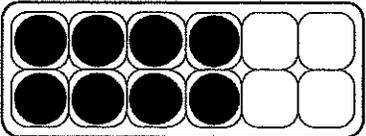
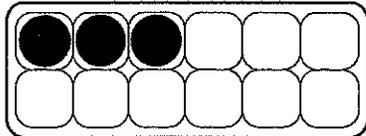
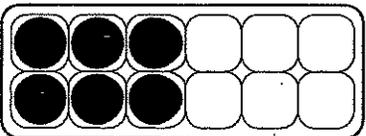
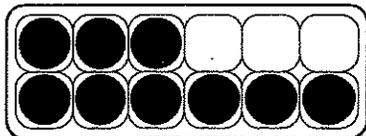
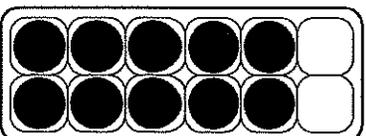
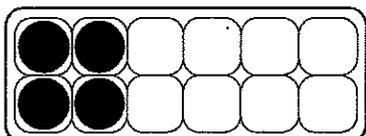
ex	\div	10	4	18	6	16	12	14	8
	2	5	2	9	3	8	6	7	4

a	\div	8	32	12	16	36	28	24	20
	4	2							

b	\div	16	48	72	56	64	32	40	24
	8	2							

c	\div	14	63	42	35	56	49	28	21
	7	2							

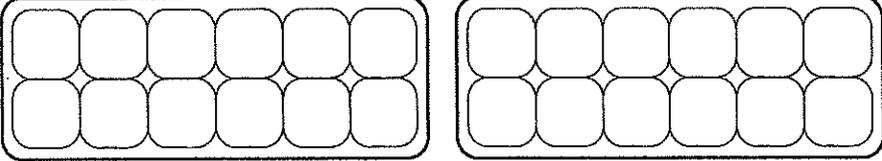
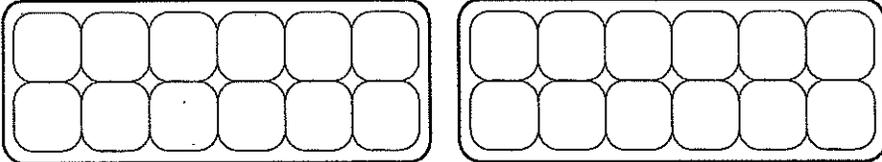
2 Write at least two fractions to show how much of each egg carton is filled.

<p>example</p>  <p>$\frac{8}{12}$ $\frac{4}{6}$ $\frac{2}{3}$</p>	<p>a</p> 
<p>b</p> 	<p>c</p> 
<p>d</p> 	<p>e</p> 

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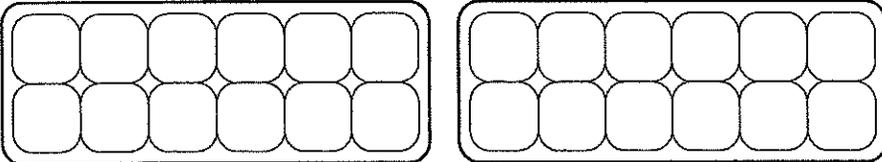
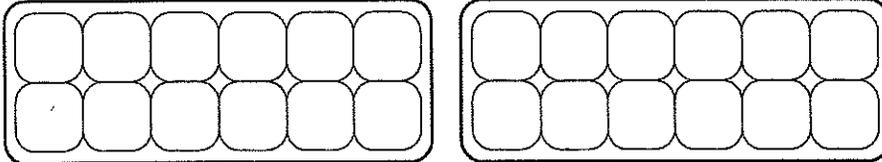
Greater Than & Less Than

Problem and picture of the fraction	Name of the fraction
<p>1 Show a fraction that is greater than 1 and less than $1\frac{1}{2}$.</p> 	
<p>2 Show a fraction that is greater than $1\frac{1}{2}$ and less than 2.</p> 	

Use the following information to complete the items below.

$\frac{1}{4}$ ← numerator

$\frac{1}{4}$ ← denominator

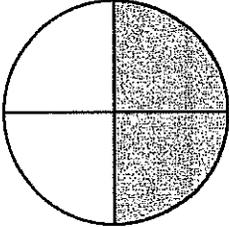
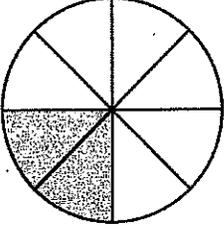
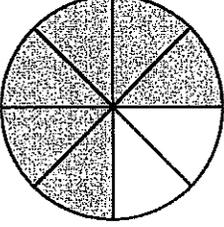
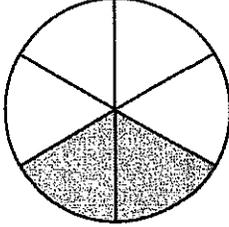
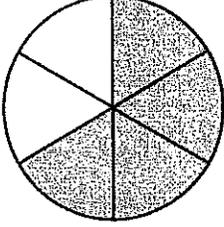
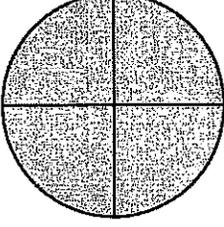
Problem and picture of the fraction	Name of the fraction
<p>3 Show a fraction with 4 in the denominator that is greater than $1\frac{1}{3}$ and less than $1\frac{3}{4}$.</p> 	
<p>4 Show a fraction with 3 in the denominator that is greater than $\frac{3}{4}$ and less than $1\frac{1}{2}$.</p> 	

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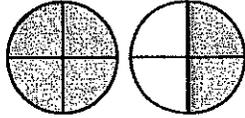
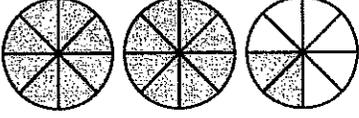
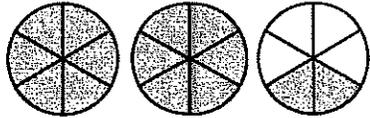
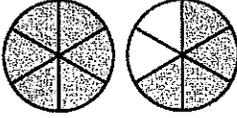
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Fractions & Mixed Numbers

1 The circles below are divided into equal parts. Write two fractions to show what part of each circle is filled in.

<p>example</p>  <p style="margin-left: 20px;">$\frac{1}{2}$ $\frac{2}{4}$</p>	<p>a</p> 	<p>b</p> 
<p>c</p> 	<p>d</p> 	<p>e</p> 

2 The circles below are divided into equal parts. Write a fraction and a mixed number to show how many circles are filled in.

	Fraction	Mixed Number		Fraction	Mixed Number
<p>example</p> 	$\frac{3}{2}$	$1\frac{1}{2}$	<p>a</p> 		
<p>b</p> 			<p>c</p> 		

3 Fill in the missing fractions or mixed numbers.



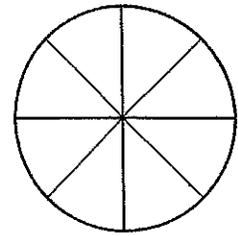
Fractions	ex $\frac{5}{2}$	a $\frac{9}{2}$	b $\frac{9}{4}$	c $\frac{14}{4}$	d	e	f $\frac{62}{3}$	g
Mixed Number	$2\frac{1}{2}$				$3\frac{1}{2}$	$2\frac{3}{4}$		$30\frac{1}{3}$

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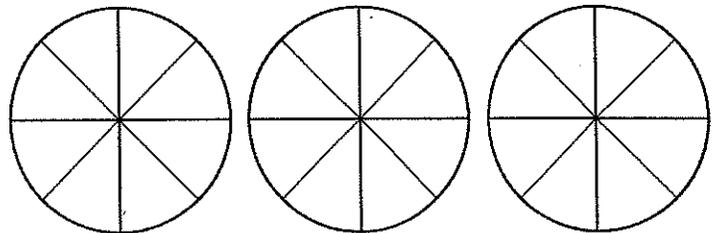
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Pizza Problems

1 The pizzas at Little Tom's are cut into 8 pieces. Lucy ate $\frac{1}{2}$ of a pizza and Alex ate $\frac{3}{8}$ of a pizza. Who ate more pizza? How much more? Use pictures, numbers, and/or words to explain how you know.



2 On Friday night, the Suarez family ate $2\frac{3}{4}$ pizzas. Their neighbors, the Johnson family, ate $\frac{17}{8}$ of a pizza. Which family ate more pizza? How much more? Use pictures, numbers, and/or words to explain how you know.



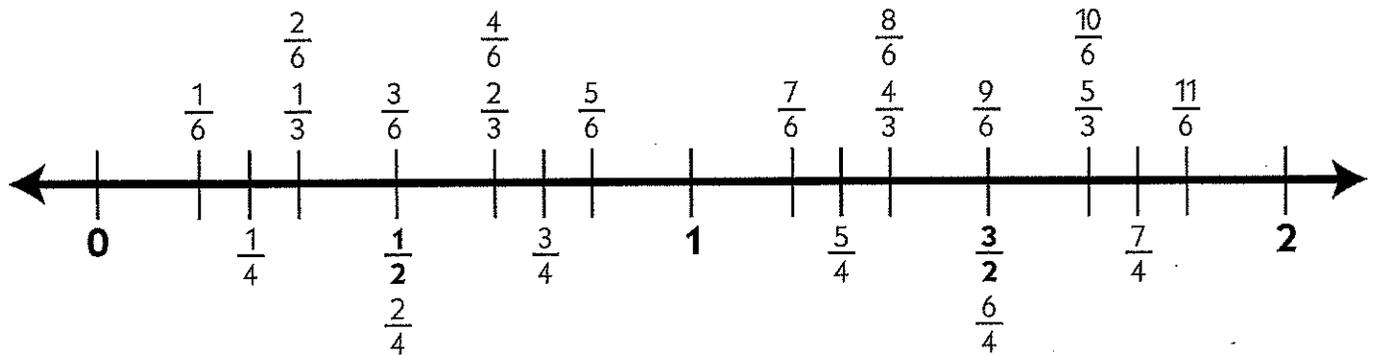
CHALLENGE

3 Which is greater, $\frac{82}{8}$ or $\frac{37}{4}$? Explain how you know. Hint: *Think about how many eighths and how many fourths are in one whole.*

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Using Fractions on a Number Line to Solve Problems



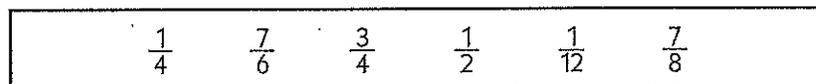
1 Use the number line above to help answer these questions.

a Celia ran $\frac{5}{6}$ of a mile. Jade ran $1\frac{1}{4}$ mile. Who ran farther?

b Lester has a piece of rope that is $\frac{9}{6}$ of a foot long. Dario has a piece of rope that is $1\frac{1}{3}$ of a foot long. Whose piece of rope is longer?

c Table A is $1\frac{2}{3}$ of a yard long. Table B is $\frac{11}{6}$ of a yard long. Which table is longer?

2 Put the following fractions in order from smallest to greatest. Hint: *Think about landmarks. Which fractions are less than one-half? Which fractions are close to 1?*



Least Greatest

3 Think about landmarks like one-half and one to compare the fractions below. Use a greater than (>) or less than (<) sign to compare them.

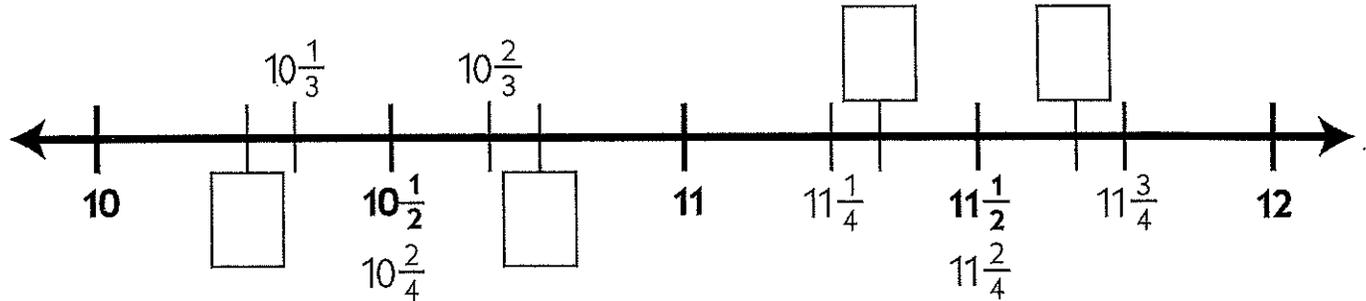
ex $\frac{3}{4} > \frac{1}{3}$	a $\frac{3}{6}$ $\frac{3}{4}$	b $\frac{5}{6}$ $\frac{3}{4}$	c $\frac{5}{6}$ $\frac{2}{3}$
d $\frac{5}{4}$ $\frac{5}{6}$	e $\frac{5}{4}$ $\frac{4}{3}$	f $\frac{11}{6}$ $\frac{5}{3}$	g $\frac{10}{9}$ $\frac{101}{100}$

NAME _____

DATE _____

Fraction Practice

1 Fill in the four missing numbers on the fraction number line below.



2 Use the number line above to help answer these questions.

a Alicia ran $10\frac{2}{3}$ miles. Did she run closer to 10 miles or 11 miles?

b Erica ran $11\frac{1}{4}$ miles. She said she ran about 12 miles. Was she accurate? Explain why or why not.

c Frank ran $10\frac{2}{3}$ miles. Cameron ran $10\frac{2}{4}$ miles. Who ran farther?

3 There are 4 fourths in 1 whole, so there are 40 fourths in 10 wholes. Therefore, we can say $\frac{4}{4} = 1$ and $\frac{40}{4} = 10$. Think about how many thirds and fourths are in a whole, and look at the number line above, to help fill in the blanks below.

$\frac{44}{4} = \underline{11}$	$\frac{2}{2} = \underline{\hspace{2cm}}$	$\frac{20}{2} = \underline{\hspace{2cm}}$	$\frac{22}{2} = \underline{\hspace{2cm}}$
$\frac{3}{3} = \underline{\hspace{2cm}}$	$\frac{30}{3} = \underline{\hspace{2cm}}$	$\frac{33}{3} = \underline{\hspace{2cm}}$	$\frac{35}{3} = \underline{\hspace{2cm}}$
$\frac{23}{2} = \underline{\hspace{2cm}}$	$\frac{31}{3} = \underline{\hspace{2cm}}$	$\frac{42}{4} = \underline{\hspace{2cm}}$	$\frac{29}{3} = \underline{\hspace{2cm}}$

4 Write the following fractions in simplest form.

ex $\frac{12}{15} \div \frac{3}{3} = \frac{4}{5}$	a $\frac{6}{21} \div \frac{\hspace{1cm}}{\hspace{1cm}} =$	b $\frac{8}{36} \div \frac{\hspace{1cm}}{\hspace{1cm}} =$
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