Entering 6th Grade
Summer Math Work

WCS

Name: _____

Dear Families,

It is so important for children to keep learning over the summer! Research shows that students can lose up to 2.6 months of math learning during the summer months. Research also shows that just 2 hours of work each week in math can help prevent this summer learning loss. The work in this packet has been designed to review last year's learned math skills and prepare your child for success in math this year. This will also be your child's first math grade of the year and you will need to send it to school when we return in the fall.

In this packet, you will find about 10 weeks of work, with 1-2 hours of work each week. We suggest you create a schedule that works for your family each week. Maybe you spend 15-30 minutes in the mornings working on this math work each day or maybe your child completes it all on Sunday evenings-- whatever works for you. Please do try to spread it over 10 weeks- don't try to do it all the last week of summer!

Happy summer!

NAME _____   DATE _____

Multiplication & Division Facts

1 Complete the multiplication facts.

0	7	8	3	6	3	7
× 5	× 4	× 6	× 4	× 6	× 6	× 8

4	6	7	8	1	3	5
× 4	× 8	× 7	× 4	× 9	× 7	× 6

10	5	8	9	4	7	6
× 4	× 5	× 8	× 3	× 9	× 5	× 7

2 Complete the division facts.

42 ÷ 6 = _____   54 ÷ 6 = _____   24 ÷ 3 = _____

63 ÷ 9 = _____   28 ÷ 4 = _____   7 ÷ 1 = _____

3 Write a greater than, less than, or equal sign to complete each number sentence. Try to complete each number sentence without doing all the calculations.

example 36 + 4 < 26 + 20	**a** 2 × 24 2 × 16
b 400 ÷ 80 400 ÷ 10	**c** 77 − 20 67 − 20
d 36 + 23 46 + 16	**e** 458 − 129 358 − 29
f 3 × 360 40 × 30	**g** 50 × 400 400 × 50
h 2,500 ÷ 10 1,000 ÷ 5	**i** 24,000 ÷ 6 48,000 ÷ 12

A

Multiply.

1	3 x 0 =	23	8 x 5 =
2	4 x 0 =	24	8 x 4 =
3	7 x 0 =	25	3 x 10 =
4	8 x 0 =	26	3 x 9 =
5	3 x 1 =	27	3 x 8 =
6	4 x 1 =	28	4 x 10 =
7	7 x 1 =	29	4 x 9 =
8	8 x 1 =	30	4 x 8 =
9	3 x 2 =	31	8 x 10 =
10	3 x 3 =	32	8 x 9 =
11	4 x 2 =	33	8 x 8 =
12	4 x 3 =	34	7 x 10 =
13	8 x 2 =	35	7 x 9 =
14	8 x 3 =	36	7 x 8 =
15	7 x 2 =	37	3 x 6 =
16	7 x 3 =	38	4 x 7 =
17	4 x 5 =	39	7 x 6 =
18	4 x 4 =	40	8 x 7 =
19	3 x 5 =	41	3 x 7 =
20	3 x 4 =	42	4 x 6 =
21	7 x 5 =	43	7 x 7 =
22	7 x 4 =	44	8 x 6 =

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NAME _____   DATE _____

Prime & Composite Numbers

Use the following information to help solve the problems below.

A prime number has only two factors: itself and 1.	A composite number has more than two factors.	The number 1 is neither prime nor composite.
Number: 3	Number 6	Number: 1

1 For each number, circle prime or composite. Then list all of its factors.

Number	Circle one.	List all of the factors.
example 8	prime (composite)	1, 2, 4, 8
a 5	prime composite	
b 16	prime composite	
c 27	prime composite	
d 31	prime composite	
e 36	prime composite	
f 108	prime composite	
g 126	prime composite	

2 Julia says that prime numbers have to be odd and composite numbers have to be even. Is she correct? Explain how you know.

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Multiplication Practice

1 Solve the following multiplication problems.

$$
\begin{array}{r} 20 \\ \times\ 3 \\ \hline \end{array}
\qquad
\begin{array}{r} 20 \\ \times\ 4 \\ \hline \end{array}
\qquad
\begin{array}{r} 30 \\ \times\ 6 \\ \hline \end{array}
\qquad
\begin{array}{r} 30 \\ \times\ 8 \\ \hline \end{array}
\qquad
\begin{array}{r} 30 \\ \times\ 9 \\ \hline \end{array}
\qquad
\begin{array}{r} 40 \\ \times\ 5 \\ \hline \end{array}
\qquad
\begin{array}{r} 40 \\ \times\ 7 \\ \hline \end{array}
$$

$$
\begin{array}{r} 50 \\ \times\ 3 \\ \hline \end{array}
\qquad
\begin{array}{r} 50 \\ \times\ 4 \\ \hline \end{array}
\qquad
\begin{array}{r} 50 \\ \times\ 8 \\ \hline \end{array}
\qquad
\begin{array}{r} 60 \\ \times\ 8 \\ \hline \end{array}
\qquad
\begin{array}{r} 60 \\ \times\ 5 \\ \hline \end{array}
\qquad
\begin{array}{r} 60 \\ \times\ 6 \\ \hline \end{array}
\qquad
\begin{array}{r} 70 \\ \times\ 7 \\ \hline \end{array}
$$

$$
\begin{array}{r} 70 \\ \times\ 3 \\ \hline \end{array}
\qquad
\begin{array}{r} 90 \\ \times\ 7 \\ \hline \end{array}
\qquad
\begin{array}{r} 80 \\ \times\ 7 \\ \hline \end{array}
\qquad
\begin{array}{r} 80 \\ \times\ 6 \\ \hline \end{array}
\qquad
\begin{array}{r} 90 \\ \times\ 8 \\ \hline \end{array}
\qquad
\begin{array}{r} 80 \\ \times\ 9 \\ \hline \end{array}
\qquad
\begin{array}{r} 40 \\ \times\ 8 \\ \hline \end{array}
$$

2 Solve each problem below using the partial products method shown.

$$
\begin{array}{r} 135 \\ \times\ 4 \\ \hline \end{array}
$$
$4 \times 100 = 400$
$4 \times 30 = 120$
$4 \times 5 = +20$
$\overline{540}$

$$
\begin{array}{r} 27 \\ \times\ 6 \\ \hline \end{array}
\qquad\qquad
\begin{array}{r} 29 \\ \times\ 5 \\ \hline \end{array}
\qquad\qquad
\begin{array}{r} 57 \\ \times\ 6 \\ \hline \end{array}
$$

$$
\begin{array}{r} 53 \\ \times\ 8 \\ \hline \end{array}
\qquad\qquad
\begin{array}{r} 108 \\ \times\ 6 \\ \hline \end{array}
\qquad\qquad
\begin{array}{r} 217 \\ \times\ 4 \\ \hline \end{array}
\qquad\qquad
\begin{array}{r} 433 \\ \times\ 6 \\ \hline \end{array}
$$

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Order of Operations

The order of operations tells you how to do calculations when there is more than one kind of operation.

Order of Operations	Example
	$20 - 12 \div (3 + 1)$
1. Anything inside parentheses	$20 - 12 \div (3 + 1) = 20 - 12 \div 4$
2. Multiplication and division from left to right	$20 - 12 \div 4 = 20 - 3$
3. Addition and subtraction from left to right	$20 - 3 = 17$

1 Use the order of operations above to complete each equation.

a $(9 + 3) \times (16 \div 8) \div 4$	**b** $(365 + 35) \div 5 + 3$
c $36 \div 6 + 4 \times (27 \div 9)$	**d** $(26 - 18) \times 5 \div 10 + 10$

2 Insert parentheses to make each equation true.

a $2 \times 18 - 5 + 15 \div 5 = 32$	**b** $34 - 20 \div 4 + 3 = 2$
c $14 = 50 - 42 \div 3 + 4 \times 6$	**d** $21 = 7 + 16 - 8 \div 2 + 2 \times 25 \div 5$

CHALLENGE

3 Using at least two operations, write an expression that is the same whether you do the calculations from left to right or using the correct order of operations.

Practice Book Use anytime after Bridges, Unit 1, Session 21.

NAME _____   DATE _____

Prime Factorization

1 Show the prime factorization for each number. Then use the prime factors to help determine *all* the factors of that number.

Number	Prime Factorization	*All* the Factors (Thinking of Factor Pairs)
ex 105	105 5 21 3 7	1, 105 3, 35 5, 21 7, 15
a 18		
b 45		
c 72		

2 What factors do 18, 45, and 72 have in common?

3 What is the *greatest* factor that 18, 45, and 72 have in common?

A

Multiply.

1	3 x 0 =	23	9 x 5 =
2	4 x 0 =	24	9 x 4 =
3	8 x 0 =	25	3 x 10 =
4	9 x 0 =	26	3 x 9 =
5	3 x 1 =	27	3 x 8 =
6	4 x 1 =	28	4 x 10 =
7	8 x 1 =	29	4 x 9 =
8	9 x 1 =	30	4 x 8 =
9	3 x 2 =	31	9 x 10 =
10	3 x 3 =	32	9 x 9 =
11	4 x 2 =	33	9 x 8 =
12	4 x 3 =	34	8 x 10 =
13	9 x 2 =	35	8 x 9 =
14	9 x 3 =	36	8 x 8 =
15	8 x 2 =	37	3 x 6 =
16	8 x 3 =	38	4 x 7 =
17	4 x 5 =	39	8 x 6 =
18	4 x 4 =	40	9 x 7 =
19	3 x 5 =	41	3 x 7 =
20	3 x 4 =	42	4 x 6 =
21	8 x 5 =	43	8 x 7 =
22	8 x 4 =	44	9 x 6 =

NAME _____ DATE _____

Multiplying by Multiples of 10

1 Complete the following multiplication problems.

$$
\begin{array}{cccccc}
10 & 100 & 1{,}000 & 20 & 200 & 20 \\
\times\ 10 & \times\ 10 & \times\ \ \ 10 & \times\ 10 & \times\ 10 & \times\ 20 \\
\hline
\end{array}
$$

2 Use each number below just one time to complete the multiplication problems.

3	6	30	60

$$
\begin{array}{c}
8\ \ 0 \\
\times\ \boxed{} \\
\hline
2\ \ 4\ \ 0\ \ 0
\end{array}
\qquad
\begin{array}{c}
7\ \ 0 \\
\times\ \boxed{} \\
\hline
4\ \ 2\ \ 0
\end{array}
\qquad
\begin{array}{c}
4\ \ 0 \\
\times\ \boxed{} \\
\hline
2\ \ 4\ \ 0\ \ 0
\end{array}
\qquad
\begin{array}{c}
6\ \ 0 \\
\times\ \boxed{} \\
\hline
1\ \ 8\ \ 0
\end{array}
$$

3 Complete each basic fact and the related multiplication problem. Then write and solve another multiplication problem you could solve with that basic fact. You can use numbers that are as big as you want them to be.

Basic Facts	Related Problem	Your Own Problem and Solution
ex $4 \times 5 =$ __20__	$40 \times 5 =$ __200__	$40 \times 500 = 20{,}000$
a $6 \times 4 =$ _____	$60 \times 40 =$ _____	
b $8 \times 7 =$ _____	$80 \times 7 =$ _____	
c $3 \times 9 =$ _____	$30 \times 9 =$ _____	
d $9 \times 6 =$ _____	$90 \times 60 =$ _____	
e $9 \times 4 =$ _____	$90 \times 4 =$ _____	

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Using the Standard Multiplication Algorithm

1 Solve these multiplication problems.

$$\begin{array}{r} 80 \\ \times\ 30 \\ \hline \end{array}$$
$$\begin{array}{r} 80 \\ \times\ 40 \\ \hline \end{array}$$
$$\begin{array}{r} 90 \\ \times\ 30 \\ \hline \end{array}$$
$$\begin{array}{r} 90 \\ \times\ 40 \\ \hline \end{array}$$
$$\begin{array}{r} 100 \\ \times\ 30 \\ \hline \end{array}$$
$$\begin{array}{r} 100 \\ \times\ 40 \\ \hline \end{array}$$

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

ex	a
$\begin{array}{r} {}^{1}\cancel{2} \\ 84 \\ \times\ 36 \\ \hline {}_{1}\ 504 \\ +\ 2{,}520 \\ \hline 3{,}024 \end{array}$	$\begin{array}{r} 79 \\ \times\ 26 \\ \hline \end{array}$
b	**c**
$\begin{array}{r} 86 \\ \times\ 32 \\ \hline \end{array}$	$\begin{array}{r} 92 \\ \times\ 37 \\ \hline \end{array}$
d	**e**
$\begin{array}{r} 82 \\ \times\ 43 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ \times\ 29 \\ \hline \end{array}$

NAME _____   DATE _____

Baking Cookies & Drying Clothes

1 Anne is baking giant cookies with her dad. They are baking them in batches of 8. If they made 36 cookies, how many batches did they have to bake? Show all your work.
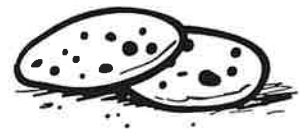
2 Joe was doing his laundry at the laundromat. The dryer went for 15 minutes every time he put a quarter in it. He wanted to leave as soon as possible, so he kept checking on his clothes to see if they were dry. If his clothes were done drying in 50 minutes, how much money did Joe spend on the dryer? Show all your work.

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Number Patterns

1 Complete the count-by patterns below.

a 3, 6, 9, _____, _____, 18, 21, _____, _____, _____

b 5, 10, 15, _____, 25, _____, 35, _____, _____

c 15, 30, 45, _____, _____, 90, _____

2 Is 105 divisible by 3, 5, or both? Explain how you know.

3a Circle all the multiples of 6.

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

b Circle all the multiples of 8.

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

c Which numbers between 1 and 100 are multiples of both 6 and 8?

CHALLENGE

d How many numbers between 1 and 250 are multiples of both 6 and 8? Explain your answer.

A

Solve for k.

#		k =	#		k =
1	2 ÷ 2 = k	k =	23	15 ÷ 3 = k	k =
2	4 ÷ 2 = k	k =	24	30 ÷ 3 = k	k =
3	6 ÷ 2 = k	k =	25	k = 10 ÷ 2	k =
4	8 ÷ 2 = k	k =	26	k = 25 ÷ 5	k =
5	20 ÷ 2 = k	k =	27	16 ÷ 4 = k	k =
6	k = 20 ÷ 10	k =	28	12 ÷ 3 = k	k =
7	5 ÷ 5 = k	k =	29	k = 14 ÷ 2	k =
8	10 ÷ 5 = k	k =	30	k = 18 ÷ 2	k =
9	15 ÷ 5 = k	k =	31	12 ÷ 2 = k	k =
10	20 ÷ 5 = k	k =	32	16 ÷ 2 = k	k =
11	50 ÷ 5 = k	k =	33	35 ÷ 5 = k	k =
12	k = 50 ÷ 10	k =	34	k = 18 ÷ 3	k =
13	4 ÷ 4 = k	k =	35	24 ÷ 3 = k	k =
14	8 ÷ 4 = k	k =	36	k = 45 ÷ 5	k =
15	12 ÷ 4 = k	k =	37	24 ÷ 4 = k	k =
16	20 ÷ 4 = k	k =	38	k = 32 ÷ 4	k =
17	40 ÷ 4 = k	k =	39	40 ÷ 5 = k	k =
18	k = 40 ÷ 10	k =	40	k = 21 ÷ 3	k =
19	30 ÷ 10 = k	k =	41	27 ÷ 3 = k	k =
20	3 ÷ 3 = k	k =	42	k = 30 ÷ 5	k =
21	6 ÷ 3 = k	k =	43	28 ÷ 4 = k	k =
22	9 ÷ 3 = k	k =	44	k = 36 ÷ 4	k =

Practice Book Use anytime after Bridges, Unit 2, Session 20.

NAME _____ DATE _____

Division on a Base-Ten Grid

1 Complete the following multiplication problems.

14	14	14	14	14	14
× 2	× 3	× 10	× 5	× 20	× 30
___	___	___	___	___	___

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

a 322 ÷ 14 = _____
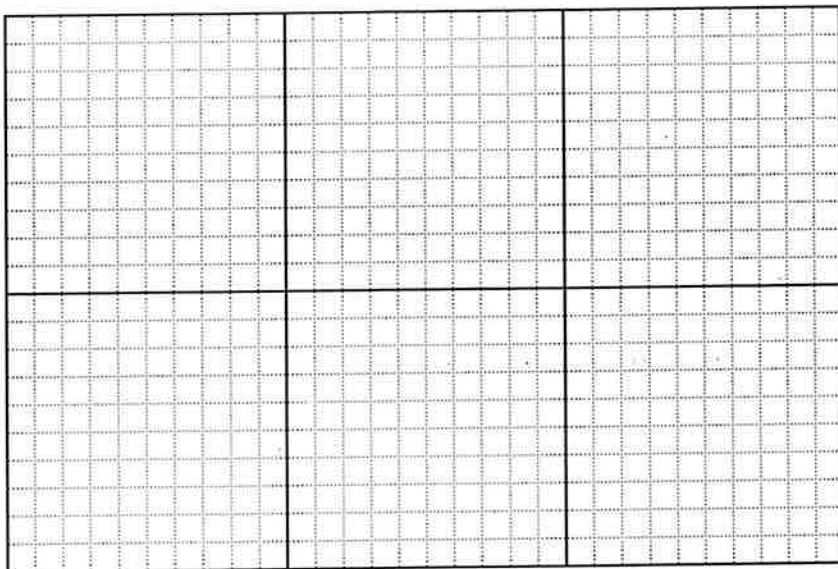
b 238 ÷ 14 = _____
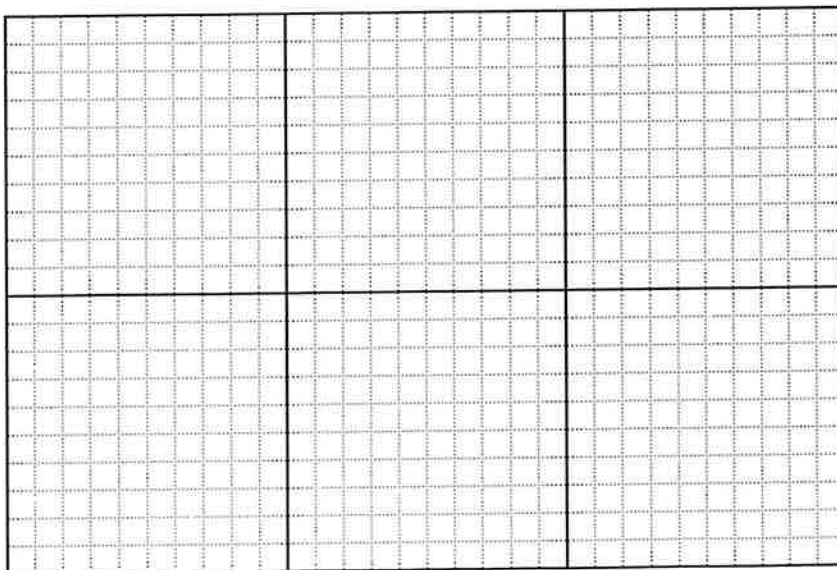
NAME _____   DATE _____

Finding the Areas of Parallelograms

To find the area of any parallelogram, including squares and rectangles, multiply the base by the height.

Base × Height = Area
5 × 3 = 15 square units
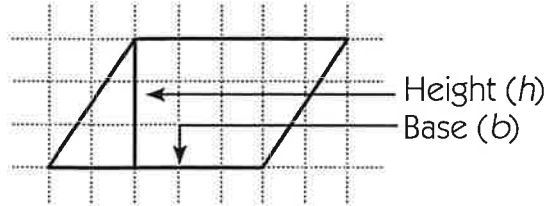
Height (h)
Base (b)

1 Multiply the base by the height to find the area of these parallelograms.

ex	a
Base ____6____ Height ____2____	Base _____ Height _____
Area ___6 × 2 = 12 square units___	Area _____

b	c
Base _____ Height _____	Base _____ Height _____
Area _____	Area _____

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Finding the Area of a Triangle

To find the area of any triangle, multiply the base by the height and then divide by 2.

(Base × Height) ÷ 2 = Area
(6 × 3) ÷ 2 = 9 Square Units
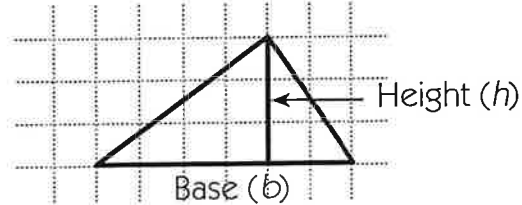
1 Label the base and height on each triangle. Then use the formula above to find the area of each one.
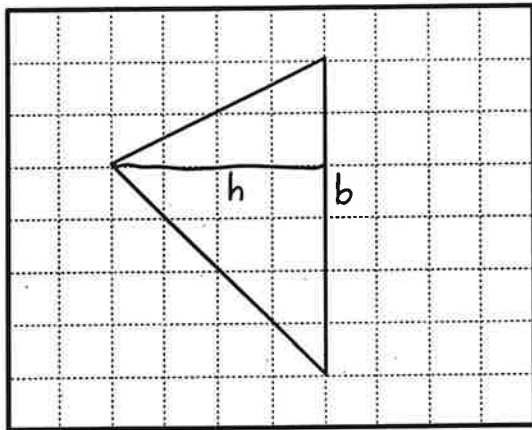
ex	a
Base ___6___ Height ___4___	Base _____ Height _____
Area __(6 × 4) ÷ 2 = 12 square units__	Area _____
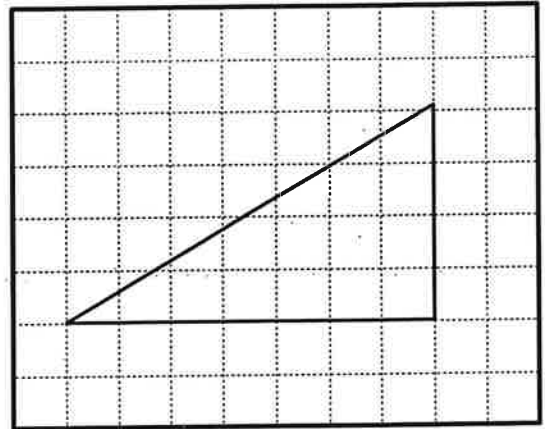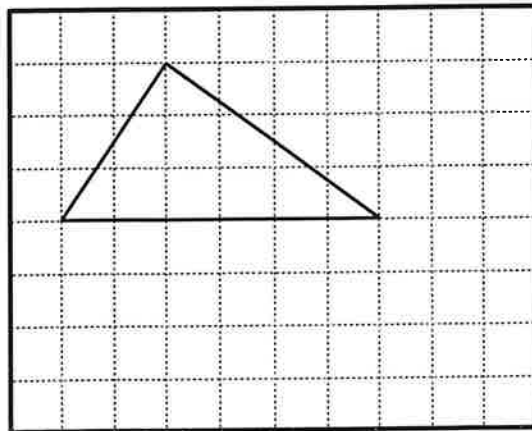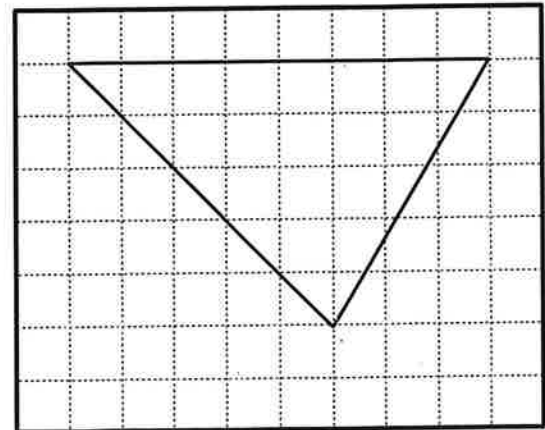
b	c
Base _____ Height _____	Base _____ Height _____
Area _____	Area _____

NAME _____   DATE _____
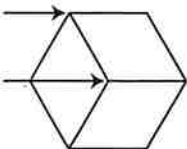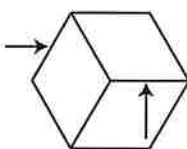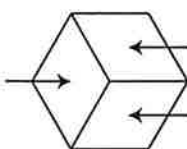
Faces, Edges & Vertices

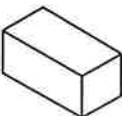**1** Use each word one time to show what part of the cube the arrows are pointing to in each picture.

<div align="center">edges   faces   vertices</div>

a _____	b _____	c _____

2 Fill in the table to describe and name each three-dimensional figure.
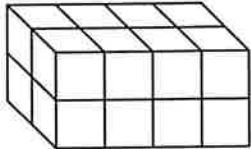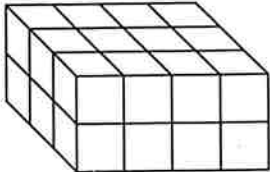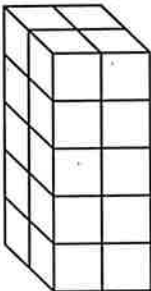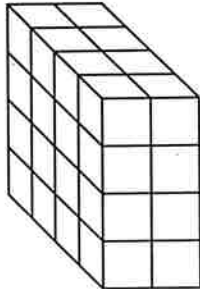
	Faces	Edges	Vertices	Shape Name
ex	6	12	8	cube
a				
b				
c				
d				
e				
f				

Practice Book Use anytime after Bridges, Unit 3, Session 22.

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Surface Area & Volume

1 Each figure below is built out of centimeter cubes. Find the surface area and volume of each one.

ex		a	
Surface Area	Volume	Surface Area	Volume
$2 \times 2 \times 2 = 8$ $4 \times 2 \times 4 = 32$ $8 + 32 = 40$ sq. cm.	$2 \times 2 \times 4 =$ 16 cubic cm.		

b		c	
Surface Area	Volume	Surface Area	Volume

⚡ **CHALLENGE**

2 Find the volume of this triangular prism.

6 cm

5 cm

3 cm

Practice Book Use anytime after Bridges, Unit 3, Session 22.
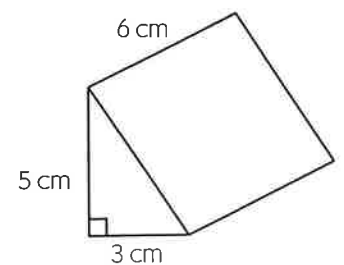
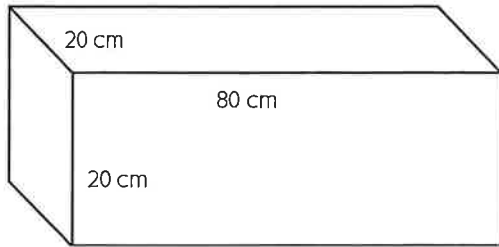NAME _____   DATE _____

Volume & Surface Area of Rectangular & Triangular Prisms

Find the volume and surface area of each prism below.

1

20 cm
80 cm
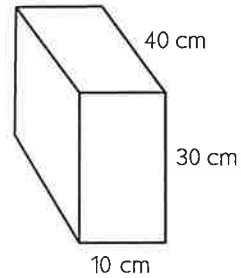20 cm

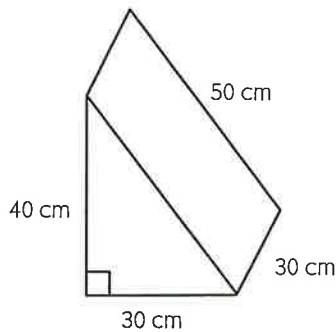Volume: _____

Surface Area: _____

2

40 cm
30 cm
10 cm

Volume: _____

Surface Area: _____

3

50 cm
40 cm
30 cm
30 cm

Volume: _____

Surface Area: _____

4

50 cm
30 cm
30 cm
25 cm
60 cm

Volume: _____

Surface Area: _____

Practice Book Use anytime after Bridges, Unit 4, Session 10.
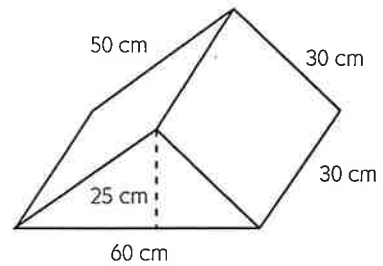
NAME _____ DATE _____

More Division Story Problems

1 A group of migrating geese travels at about 40 miles per hour. About how many hours of flying will it take them to go 320 miles? Show all your work.

2 Ellie is reading a book that is 257 pages long. If she reads 30 pages every day, how many days will it take her to read the whole book? Show all your work.

3 Paulo made some candies that he is going to sell at the market. He is putting 20 candies in a bag. If he has 187 candies altogether, how many bags can he fill? Show all your work.

CHALLENGE

4 A group of robins took 78 days to fly 3,000 miles. On average, about how many miles did the robins fly each day? Explain why your estimate is reasonable.

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Using Multiplication Menus to Solve Division Problems

1 Fill in the mutiplication menu.
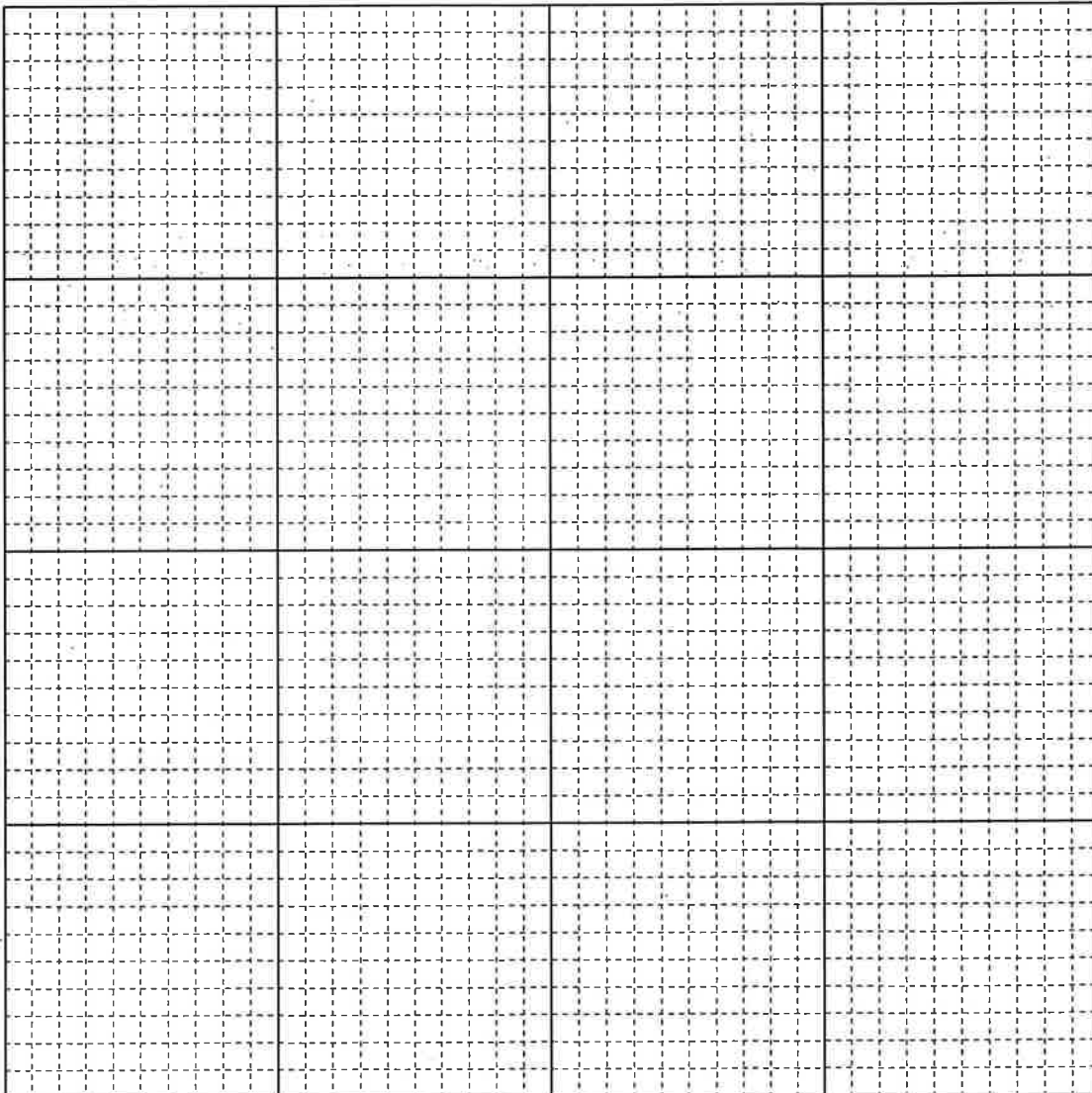
a $1 \times 16 =$ _____

b $2 \times 16 =$ _____

c $10 \times 16 =$ _____

d $5 \times 16 =$ _____

e $20 \times 16 =$ _____

f $15 \times 16 =$ _____

2 Solve the two division problems. Use the menu above and the grid below to help. You can add to the menu if you want to.

a $288 \div 16 =$ _____
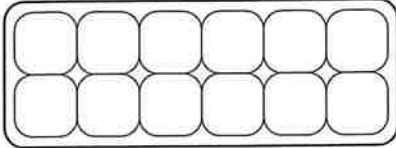
b $464 \div 16 =$ _____

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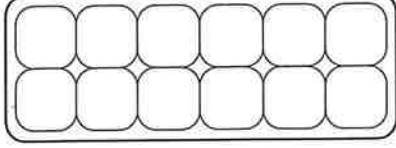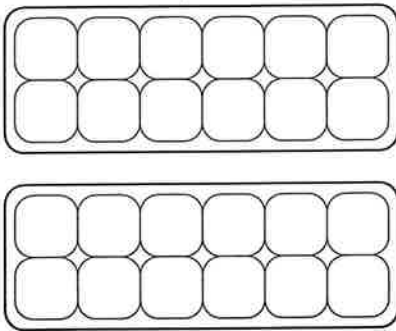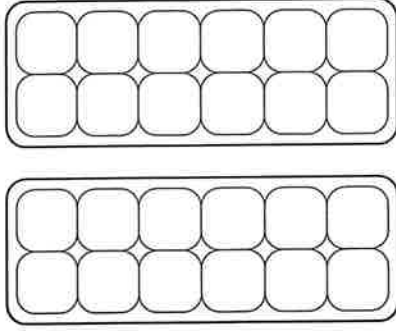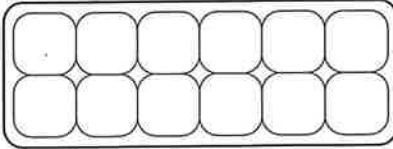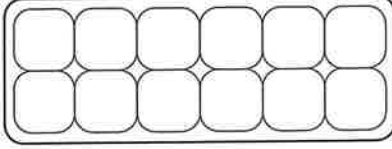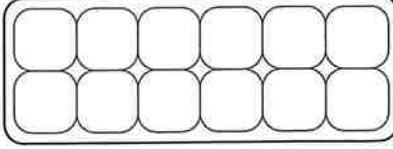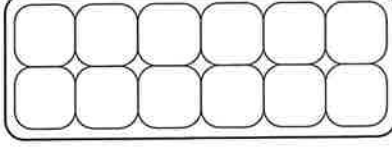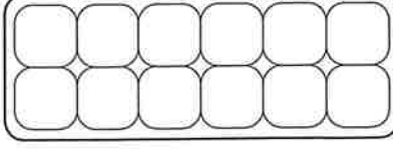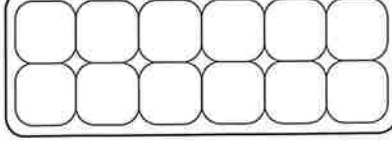
NAME _____ DATE _____

Egg Carton Fractions

1 Show the fractions on the egg cartons. Each carton represents 1 whole.

a $\frac{1}{2}$

b $\frac{3}{4}$

c $1\frac{2}{3}$

d $\frac{9}{6}$

2 Add the fractions below. If the sum is greater than 1, write it as a mixed number.

a $\frac{5}{6} + \frac{1}{2} =$

b $\frac{2}{3} + \frac{3}{6} =$

c $\frac{13}{12} + \frac{3}{4} =$

3 Use a <, >, or = sign to complete each number sentence.

a $\frac{6}{10} + \frac{11}{10}$ ___ 1

b $\frac{11}{10} + \frac{7}{6}$ ___ 2

c $\frac{1}{12} + \frac{3}{14}$ ___ 1

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Division & Fraction Practice

1 Use multiplication menus to help complete each division problem.

ex 307 ÷ 19 = __16 r3__

$19 \times 10 = 190$
$19 \times 5 = 95$
$19 \times 2 = 38$ $\left.\begin{array}{l}1\\5\\10\end{array}\right]$ 16 r3

```
        19 | 307
            - 190
              117
             - 95
               22
             - 19
                3
```

a 226 ÷ 13 = _____

b 360 ÷ 16 = _____

2 Find the difference between each pair of fractions below.

ex $\frac{8}{12} - \frac{2}{4} = \frac{2}{12}$ or $\frac{1}{6}$ the difference

$\frac{8}{12}$
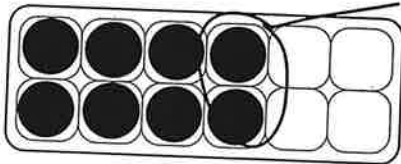
$\frac{2}{4}$
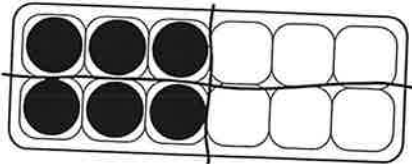
a $\frac{11}{12} - \frac{1}{4} =$
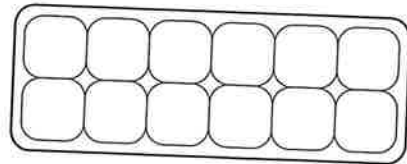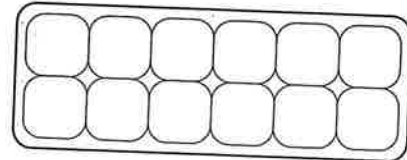
b $\frac{5}{6} - \frac{1}{3} =$
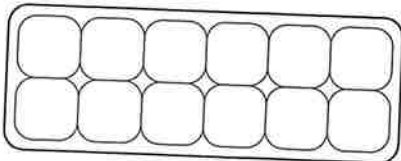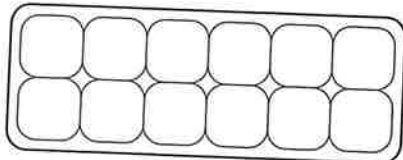
c $\frac{3}{4} - \frac{1}{6} =$
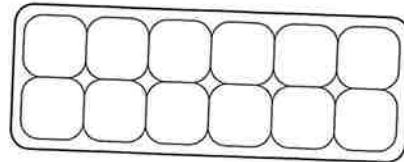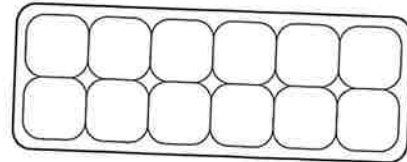
NAME _____   DATE _____

Multiplication & Division Review

1 Complete the following multiplication tables.

a
×	2	9	6	5	7	20	40	30
60	120							

b
×	2	9	6	5	7	20	40	30
40	80							

2 Complete the following division table.

÷	1,200	900	60	210	1,500	1,800	270	2,400
30	40							

3 Solve these multiplication problems using the standard algorithm.

$$
\begin{array}{r}
\overset{1}{\cancel{2}}84 \\
\times\ 36 \\
\hline
_{1}\ 504 \\
+\ 2{,}520 \\
\hline
3{,}024
\end{array}
$$

$$
\begin{array}{r}
58 \\
\times\ 27 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
451 \\
\times\ 32 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
256 \\
\times\ 33 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
177 \\
\times\ 49 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
305 \\
\times\ 64 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
573 \\
\times\ 26 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
837 \\
\times\ 86 \\
\hline
\end{array}
$$

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Using the Least Common Multiple to Compare Fractions

1 Find the least common multiple of each pair of numbers.

ex The least common multiple of 8 and 28 is ____56____. multiples of 28: 28, 56 ⟲ multiples of 8: 8, 16, 24, 32, 40, 48, 56 ⟲	**a** The least common multiple of 8 and 12 is _____. multiples of 12: multiples of 8:
b The least common multiple of 6 and 15 is _____. multiples of 15: multiples of 6:	**c** The least common multiple of 6 and 14 is _____. multiples of 14: multiples of 6:

2 Rewrite each pair of fractions with a common denominator. (Use the least common multiples above to help.) Then use a <, >, or = to compare them in two number sentences.

Fractions	Rewritten with Common Denominator	Number Sentences
ex $\frac{6}{8}$ and $\frac{17}{28}$	$\frac{6}{8} \times \frac{7}{7} = \frac{42}{56}$ $\frac{17}{28} \times \frac{2}{2} = \frac{34}{56}$	$\frac{42}{56} > \frac{34}{56}$ so $\frac{6}{8} > \frac{17}{28}$
a $\frac{5}{8}$ and $\frac{9}{12}$	$\frac{5}{8} \times \frac{}{} = $ $\frac{9}{12} \times \frac{}{} = $	so $\frac{5}{8} \frac{9}{12}$
b $\frac{4}{6}$ and $\frac{12}{15}$	$\frac{4}{6} \times \frac{}{} = $ $\frac{12}{15} \times \frac{}{} = $	so $\frac{4}{6} \frac{12}{15}$
c $\frac{5}{6}$ and $\frac{11}{14}$	$\frac{5}{6} \times \frac{}{} = $ $\frac{11}{14} \times \frac{}{} = $	so $\frac{5}{6} \frac{11}{14}$

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Finding Equivalent Fractions

1 Write two fractions that are equal to the fraction shown.

ex		a	
$\frac{3}{9} = \frac{1}{3}$ and $\frac{3}{9} = \frac{6}{18}$		$\frac{9}{15} =$ ____ and $\frac{9}{15} =$ ____	
b		**c**	
$\frac{4}{6} =$ ____ and $\frac{4}{6} =$ ____		$\frac{15}{18} =$ ____ and $\frac{15}{18} =$ ____	

2 Circle the fractions that are equal to the fraction shown. Use the space at right as a work space to do calculations if needed.

Fraction	Circle the fractions that are equal to the other fraction.				
ex $\frac{1}{2}$	$\frac{4}{8}$	$\frac{3}{5}$	$\frac{2}{4}$	$\frac{7}{14}$	$\frac{5}{6}$
a $\frac{4}{12}$	$\frac{1}{3}$	$\frac{2}{10}$	$\frac{8}{24}$	$\frac{6}{14}$	$\frac{12}{36}$
b $\frac{3}{4}$	$\frac{6}{7}$	$\frac{6}{8}$	$\frac{9}{12}$	$\frac{15}{20}$	$\frac{30}{40}$
c $\frac{3}{15}$	$\frac{6}{30}$	$\frac{5}{17}$	$\frac{1}{3}$	$\frac{1}{5}$	$\frac{9}{45}$

3 If you are given one fraction, what can you do to write other fractions that are equal to that fraction?

NAME _____ DATE _____

Rewriting & Comparing More Fractions

1 Find the least common multiple of each pair of numbers.

ex The least common multiple of 8 and 28 is ___56___. multiples of 28: 28, (56) multiples of 8: 8, 16, 24, 32, 40, 48, (56)	**a** The least common multiple of 6 and 7 is _____. multiples of 6: multiples of 7:
b The least common multiple of 9 and 12 is _____. multiples of 9: multiples of 12:	**c** The least common multiple of 9 and 15 is _____. multiples of 9: multiples of 15:

2 Rewrite each pair of fractions with a common denominator. Then use a $<$, $>$, or $=$ to compare them in two number sentences.

Fractions	Rewritten with Common Denominator	Number Sentences
ex $\frac{6}{8}$ and $\frac{17}{28}$	$\frac{6}{8} \times \frac{7}{7} = \frac{42}{56}$ $\frac{17}{28} \times \frac{2}{2} = \frac{34}{56}$	$\frac{42}{56} > \frac{34}{56}$ so $\frac{6}{8} > \frac{17}{28}$
a $\frac{4}{6}$ and $\frac{5}{7}$	$\frac{4}{6} \times \frac{}{} = $ $\frac{5}{7} \times \frac{}{} = $	so $\frac{4}{6} \frac{5}{7}$
b $\frac{7}{9}$ and $\frac{9}{12}$	$\frac{7}{9} \times \frac{}{} = $ $\frac{9}{12} \times \frac{}{} = $	so $\frac{7}{9} \frac{9}{12}$
c $\frac{8}{9}$ and $\frac{13}{15}$	$\frac{8}{9} \times \frac{}{} = $ $\frac{13}{15} \times \frac{}{} = $	so $\frac{8}{9} \frac{13}{15}$

Adding Fractions & Mixed Numbers

1 Rewrite each fraction in simplest form by dividing the numerator and denominator by the greatest common factor. A fraction is in its simplest form when its numerator and denominator have no common factor other than 1. You do not have to show your work if you can do it in your head.

ex	a	b
$\dfrac{9 \div 3}{15 \div 3} = \dfrac{3}{5}$	$\dfrac{4 \div}{6 \div} \underline{} = \underline{}$	$\dfrac{12 \div}{15 \div} \underline{} = \underline{}$
c	**d**	**e**
$\dfrac{12 \div}{18 \div} \underline{} = \underline{}$	$\dfrac{8 \div}{12 \div} \underline{} = \underline{}$	$\dfrac{4 \div}{12 \div} \underline{} = \underline{}$

2 Rewrite each pair of fractions so they have the same denominator. Then find their sum. Sometimes, you will need to find the least common multiple. Sometimes you might be able to reduce each fraction to its simplest form to find a common denominator.
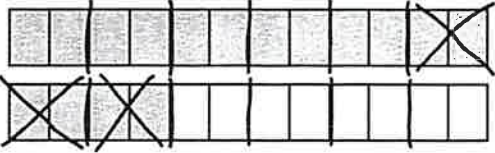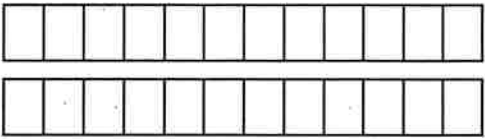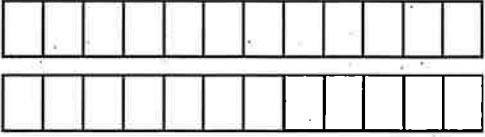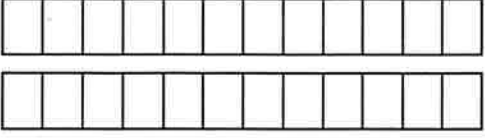
ex a	ex b
$\dfrac{5}{8} + \dfrac{7}{12}$ ↓ ↓ $\dfrac{15}{24} + \dfrac{14}{24} = \dfrac{29}{24}$ and $\dfrac{29}{24} = 1\dfrac{5}{24}$	$\dfrac{2}{6} + \dfrac{8}{12}$ ↓ ↓ $\dfrac{1}{3} + \dfrac{2}{3} = \dfrac{3}{3}$ and $\dfrac{3}{3} = 1$
a $\dfrac{3}{4} + \dfrac{2}{8}$	**b** $\dfrac{6}{8} + \dfrac{9}{12}$
c $3\dfrac{6}{12} + 4\dfrac{1}{2}$	**d** $1\dfrac{5}{8} + 2\dfrac{3}{4}$

NAME _____ DATE _____

Fraction Subtraction

1 Rewrite each pair of fractions so they have the same denominator. Then use the fraction bar pictures to show their difference. Write an equation to show both fractions and their difference.

Fractions	Rewrite with Common Denominator	Picture and Equation
ex $\frac{4}{3} - \frac{1}{2}$	$\frac{4}{3} - \frac{1}{2} = \frac{8}{6} - \frac{3}{6}$	$\frac{8}{6} - \frac{3}{6} = \frac{5}{6}$
a $\frac{3}{4} - \frac{2}{3}$	$\frac{3}{4} - \frac{2}{3} =$	
b $\frac{5}{6} - \frac{1}{3}$	$\frac{5}{6} - \frac{1}{3} =$	
c $\frac{15}{12} - \frac{3}{4}$	$\frac{15}{12} - \frac{3}{4} =$	

CHALLENGE

2 Add each pair of numbers.

a $\frac{4}{12} + \frac{7}{15} =$

b $463\frac{7}{12} + 129\frac{13}{36} =$

More Fraction Subtraction

1 Rewrite each improper fraction as a mixed number.

ex $\frac{16}{12} = 1\frac{4}{12}$　　**a** $\frac{12}{8} =$ 　　　**b** $\frac{15}{6} =$ 　　　**c** $\frac{17}{8} =$ 　　　**d** $\frac{14}{3} =$

2 Rewrite each mixed number as an improper fraction.

ex $1\frac{2}{8} = \frac{10}{8}$　　**a** $1\frac{5}{12} =$ 　　　**b** $2\frac{5}{6} =$ 　　　**c** $3\frac{1}{4} =$ 　　　**d** $4\frac{2}{3} =$

3 Rewrite each pair of fractions so that they have the same denominator. Then find the difference. Sometimes, you will need to find the least common multiple. Sometimes you might be able to reduce each fraction to its simplest form to find a common denominator.
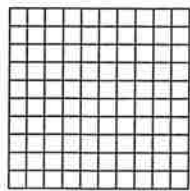
ex a	**ex b**
$\frac{5}{8} - \frac{7}{12}$ $\downarrow$　$\downarrow$ $\frac{15}{24} - \frac{14}{24} = \frac{1}{24}$	$\frac{8}{6} - \frac{8}{12}$ $\downarrow$　　$\downarrow$ $\frac{4}{3} - \frac{2}{3} = \frac{2}{3}$
a $\frac{7}{4} - \frac{4}{8}$	**b** $\frac{15}{12} - \frac{3}{8}$
c $2\frac{3}{8} - 1\frac{1}{3}$	**d** $3\frac{5}{8} - 1\frac{3}{4}$

NAME _____   DATE _____

Modeling Decimals

The base ten models below can be used to represent decimal numbers.

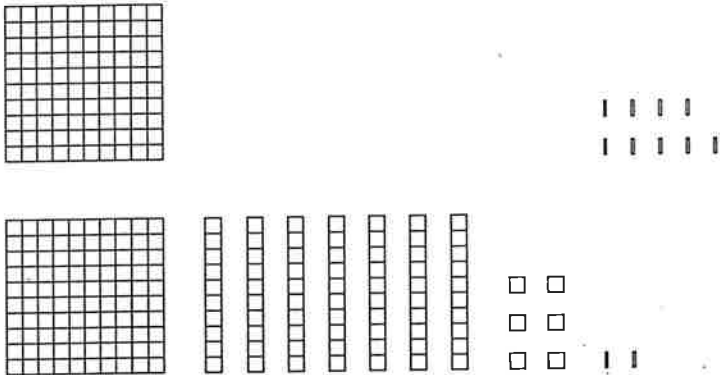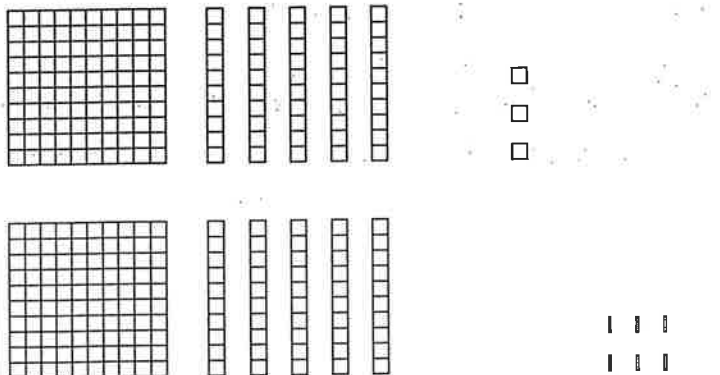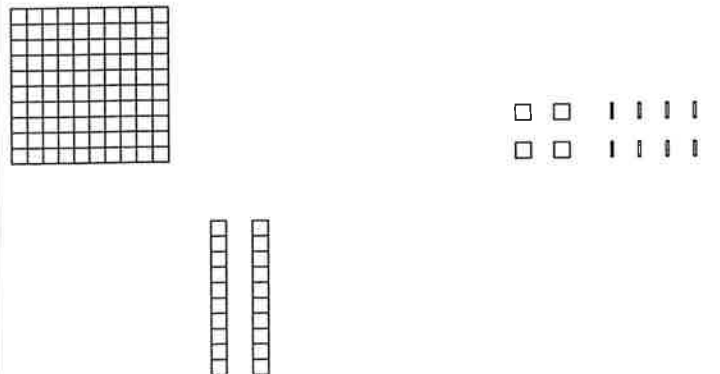| 1 whole | 1 tenth | 1 hundredth | 1 thousandth |

1 Write the number that each model represents.

Model	Decimal Number
ex	1.025
a	
b	
c	

NAME _____   DATE _____

Using Models to Add & Subtract Decimals

Look at the pictures of each addition and subtraction combination. Then answer the question about the combination's sum or difference.

Picture	Numbers	Question
1	1.009 $+ 1.762$	Is the sum of 1.009 and 1.762 greater or less than 3? Explain how you can tell.
2	1.530 $+ 1.506$	Is the sum of 1.530 and 1.506 greater or less than 3? Explain how you can tell.
3	1.048 $- 0.200$	Is the difference between 1.048 and 0.200 greater or less than 1? Explain how you can tell.

Finding the Common Denominator

1 Rewrite each fraction in simplest form by dividing the numerator and denominator by the greatest common factor. A fraction is in its simplest form when its numerator and denominator have no common factor other than 1. You do not have to show your work if you can do it in your head.

ex $\frac{9}{15} \div \frac{3}{3} = $ ——	**a** $\frac{3}{6} \div$ —— = —	**b** $\frac{9}{15} \div$ —— = —
c $\frac{15}{18} \div$ —— = —	**d** $\frac{12}{18} \div$ —— = —	**e** $\frac{8}{12} \div$ —— = —

2 Rewrite each pair of fractions so that they have the same denominator. Sometimes, you will need to find the greatest common multiple. Sometimes you might be able to reduce each fraction to its simplest form to find a common denominator.

Fractions	Your Work	With a Common Denominator
ex $\frac{7}{12}$ and $\frac{5}{8}$ 12, ㉔ 8, 16, ㉔	$\frac{7}{12} \times \frac{2}{2} = \frac{14}{24}$ $\frac{5}{8} \times \frac{3}{3} = \frac{15}{24}$	$\frac{14}{24}$ and $\frac{15}{24}$
a $\frac{1}{4}$ and $\frac{9}{12}$		
b $\frac{7}{8}$ and $\frac{5}{6}$		
c $\frac{7}{15}$ and $\frac{4}{6}$		

Rachel & Dimitri's Trip to the Store

1 Rachel and her cousin Dimitri went to the store together. Rachel bought a magazine for $2.89 and a bottle of juice for $1.35. Dimitri bought a sandwich for $3.16 and a cup of fruit salad for $1.15. Who spent more money, Dimitri or Rachel? Exactly how much more money did he or she spend than the other? Show all your work.

2 When they got to the register, Rachel said, "Oh no, I only have 4 dollars. Can I borrow the rest of the money I need from you, Dimitri?" If Dimitri paid for his food with a $5 bill, could he give Rachel the money she needed from the change he got?

A

Multiply.   Correct: _____

#	Problem	#	Problem
1	5 x 0 =	23	5 x 6 =
2	8 x 0 =	24	5 x 7 =
3	9 x 0 =	25	9 x 5 =
4	5 x 1 =	26	9 x 6 =
5	8 x 1 =	27	9 x 7 =
6	9 x 1 =	28	8 x 5 =
7	5 x 1 =	29	8 x 6 =
8	5 x 2 =	30	8 x 7 =
9	5 x 3 =	31	5 x 10 =
10	8 x 1 =	32	5 x 9 =
11	8 x 2 =	33	5 x 8 =
12	8 x 3 =	34	8 x 10 =
13	9 x 1 =	35	8 x 9 =
14	9 x 2 =	36	8 x 8 =
15	9 x 3 =	37	9 x 10 =
16	5 x 5 =	38	9 x 9 =
17	5 x 4 =	39	9 x 8 =
18	8 x 5 =	40	5 x 8 =
19	8 x 4 =	41	8 x 9 =
20	9 x 5 =	42	9 x 7 =
21	9 x 4 =	43	8 x 8 =
22	5 x 5 =	44	9 x 9 =

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