Fairfield Public Schools

Math Packet

For

Students Entering Fourth Grade

NAME _____ **DATE** _____

Place Value Practice 3-Digit Numbers

1 Complete each equation by writing the number in standard form.

example 300 + 20 + 9 = 329	**a** 800 + 40 + 5 = _____
b 500 + 8 = _____	**c** 600 + 20 = _____
d 500 + 80 + 7 = _____	**e** 900 + 10 + 4 = _____

2 Complete each equation by writing the number in expanded form.

example 659 = 600 + 50 + 9	**a** 437 = _____
b _____ = 508	**c** 549 = _____
d 692 = _____	**e** _____ = 749

3 Write each set of numbers in order from least to greatest.

example 207, 720, 270, 702	207 (least)	270	702	720 (greatest)
a 437, 347, 734, 473	_____ (least)	_____	_____	_____ (greatest)
b 603, 630, 360, 316	_____ (least)	_____	_____	_____ (greatest)
c 191, 119, 190, 109	_____ (least)	_____	_____	_____ (greatest)
d 6,071; 6,107; 6,017; 6,701	_____ (least)	_____	_____	_____ (greatest)

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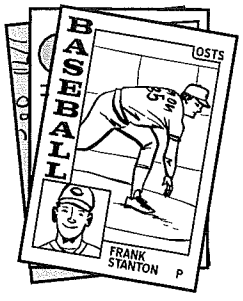
Double-Digit Addition

1 Add each pair of numbers. Show all your work.

a 30 + 65 =	**b** 42 + 35 =	**c** 46 + 38 =
d 53 + 82	**e** 67 + 85	**f** 94 + 76

2 Victor had 126 baseball cards. His cousin gave him 20 more cards. Then his brother gave him 58 more cards. How many baseball cards does Victor have now? Show all your work.



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Double-Digit Subtraction

1 Solve the subtraction problems. Show all your work.

a 67 – 28	**b** 83 – 37	**c** 92 – 54

2 Mr. Jones needs 126 pieces of construction paper to do an art project with his students. All he has is a full pack with 50 sheets of paper and an open pack with some more sheets. How many more pieces of paper does he need to borrow from the teacher next door?

a Choose the information that will help you solve the problem.

◯ There are 24 students in the class.

◯ The open pack has 17 sheets of paper.

◯ Packs of construction paper cost $3 each.

◯ He has 32 pencils.

b Solve the problem. Show all your work. Write your answer on the line at the bottom of the page.

Mr. Jones needs to borrow _____ more sheets of paper.

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Inches & Feet

1 Use a ruler marked in inches to measure each strip. Write the length in the space next to the strip. Label your answers with the correct units (inches, in. or ")

Strip	Length
a 	
b 	
c 	
d 	

2 There are 12 inches in 1 foot. Use this information to answer the questions below.

a How many feet are equal to 24 inches? _____

b How many feet are equal to 36 inches? _____

3 Rodney has a piece of rope that is 144 inches long. Simon has a piece of rope that is 87 inches long. How much longer is Rodney's piece of rope? Show all your work.

4 Maria and Katy each have a piece of string. When they put the 2 pieces of string together end-to-end, the total length is 84 inches. Maria's string is 6 inches longer than Katy's. How long is Maria's piece of string? How long is Katy's piece of string? Show all your work. Use another piece of paper if you need to.

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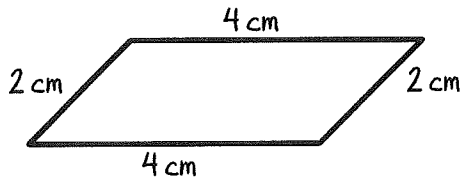
Finding the Perimeters of Quadrilaterals

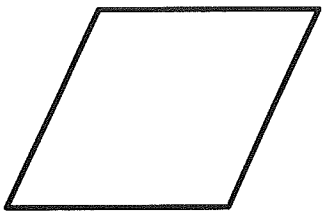
1 Use a ruler to measure the sides of each quadrilateral in centimeters. Label all the sides of each shape. Then find the perimeter. Show your work.

example Perimeter = 12 cm

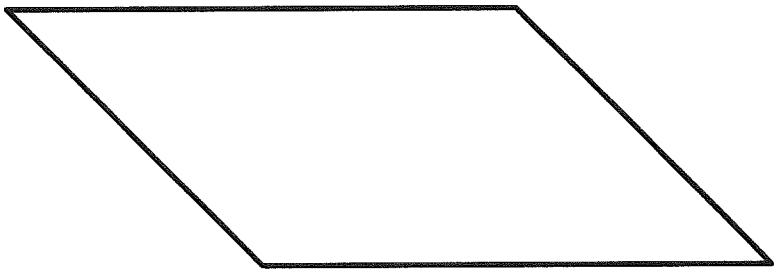


2 + 2 + 4 + 4 = 12 cm

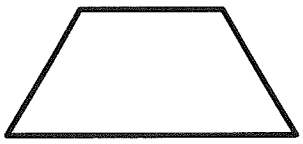
a Perimeter = _____



b Perimeter = _____



c Perimeter = _____



2a Which shape above is a rhombus? _____

b Explain how you can tell.

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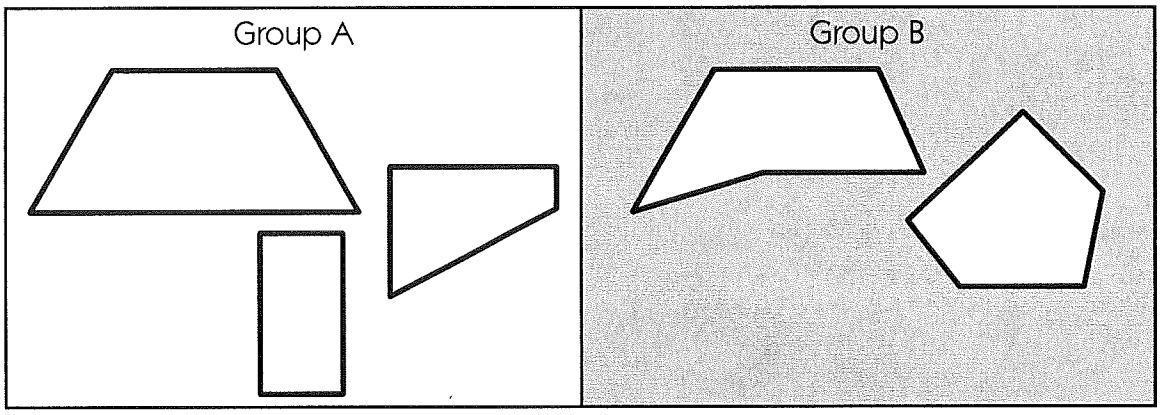
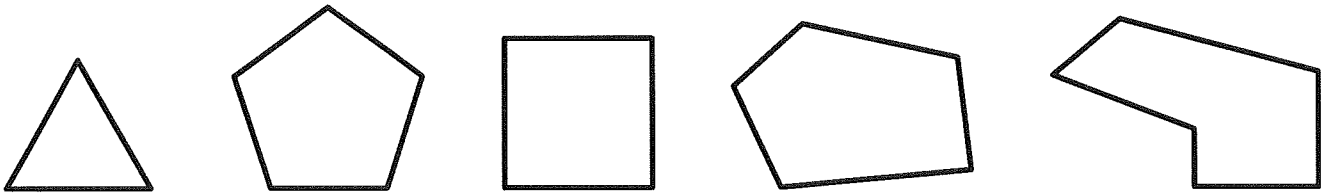
Shape Sorting

1 Walt sorted some shapes into these two groups.



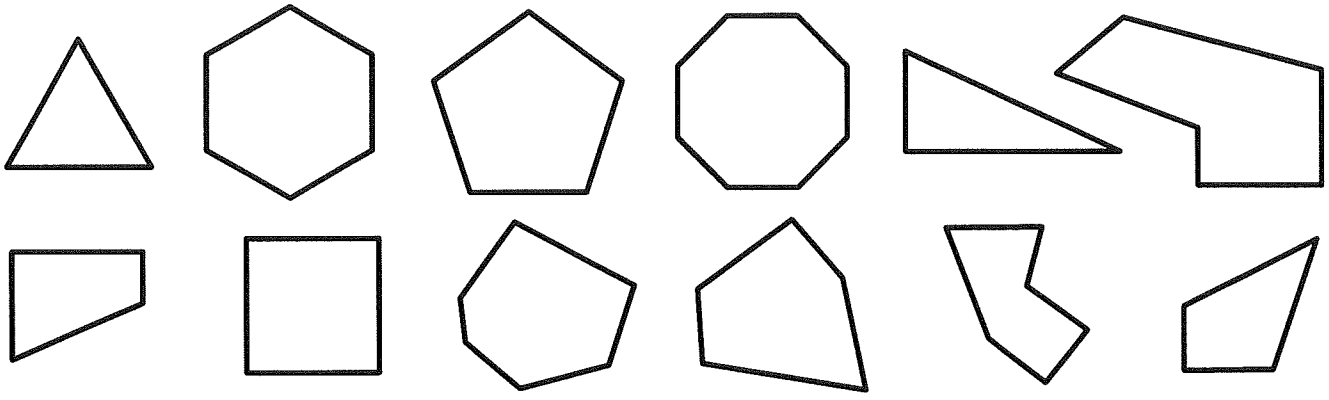
a Circle the shapes that belong in group B.



b What do the shapes in group B have in common?

2a How can you tell if a shape is a hexagon?

b Circle all the hexagons.



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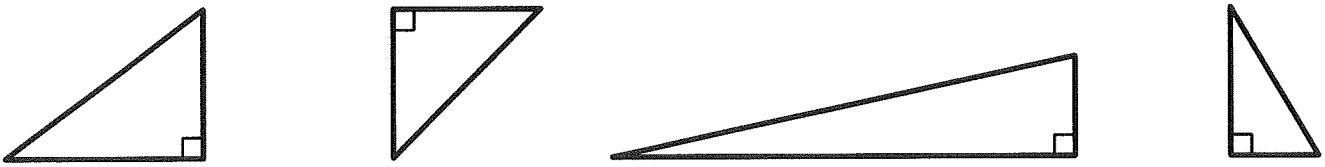
Thinking About Triangles

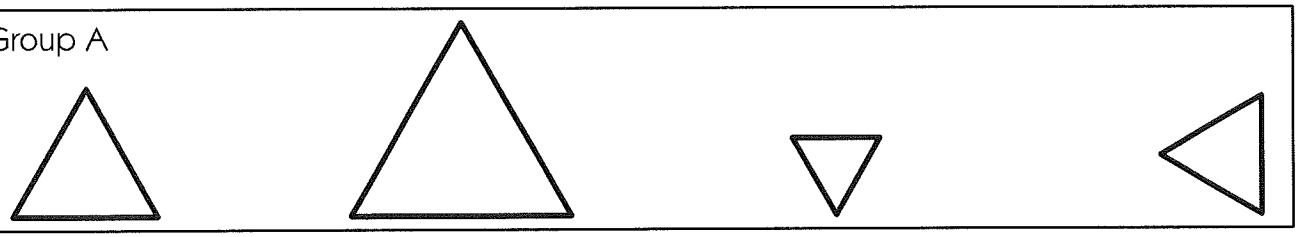
1 What is the same about all of these triangles?



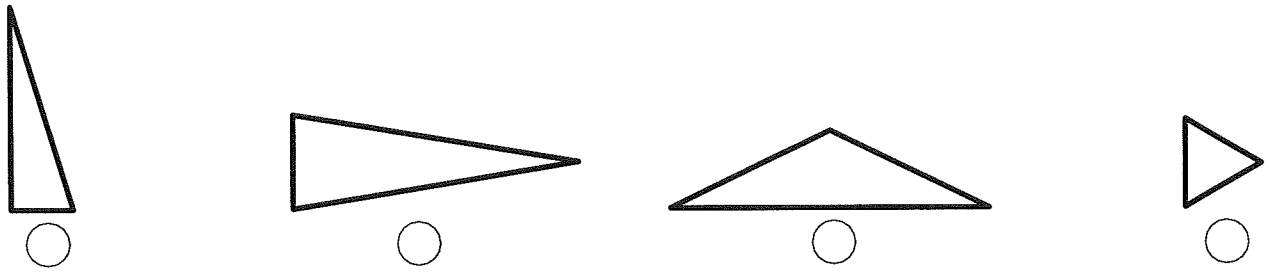
All of the triangles _____

2

Group A

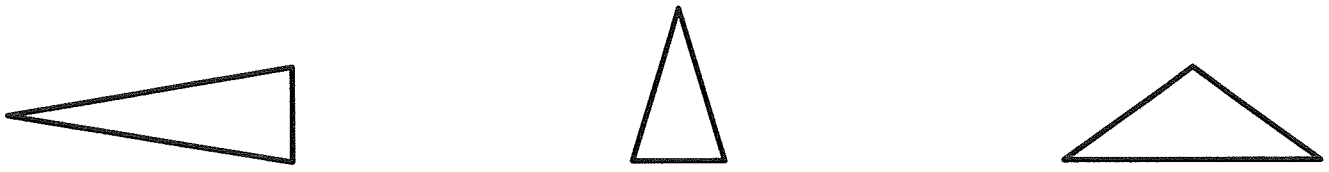


a All of the triangles in group A have something in common. Fill in the circle next to the triangle that belongs with them.



b How do you know the triangle you picked belongs in group A?

3 What do these three triangles have in common?



All of the triangles _____

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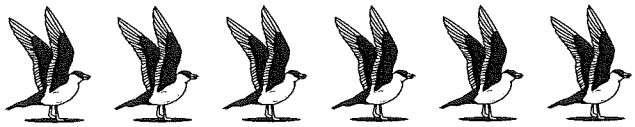
Multiplication Story Problems

Write a story problem to go with each equation and picture. Then write the answer.

example



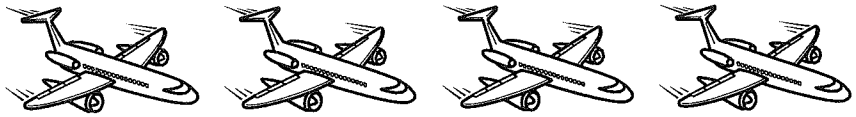
b

$6 \times 2 =$ 12

a

Six birds were flying home. Each bird had 2 wings. How many wings were flapping?

1

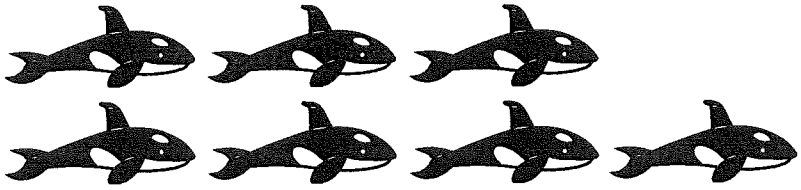


b

$4 \times 2 =$ _____

a

2



b

$7 \times 2 =$ _____

a

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T-Shirts, Erasers & Marbles

1 Fill in the bubble next to the equation that will help you solve each word problem.

a Marco wants to buy a T-shirt for each of his 4 cousins. Each T-shirt costs $12. How much will Marco spend on the T-shirts in all?

○ 4 + 12 = ? ○ 4 × 12 = ? ○ 12 − 4 = ? ○ 12 ÷ 4 = ?

b Kaylee has 4 erasers. Imani has 12 erasers. How many more erasers does Imani have than Kaylee?

○ 4 + 12 = ? ○ 4 × 12 = ? ○ 12 − 4 = ? ○ 12 ÷ 4 = ?

c Lucia had 12 marbles. Her sister gave her 4 more. How many marbles does Lucia have now?

○ 4 + 12 = ? ○ 4 × 12 = ? ○ 12 − 4 = ? ○ 12 ÷ 4 = ?

CHALLENGE

2 Use what you know about multiplication strategies to solve the problems below.

20 × 2	396 × 1	30 × 2	768 × 1	300 × 2	40 × 10	40 × 5
42 × 10	42 × 5	365 × 10	999 × 1	60 × 5	53 × 10	428 × 10

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Multiplication & Division Fact Families

1 The fact family that belongs with each array is missing an equation. Write the missing equation for each fact family.

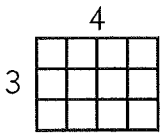
example

$3 \times 4 = 12$

$4 \times 3 = 12$

$12 \div 3 = 4$

$12 \div 4 = 3$



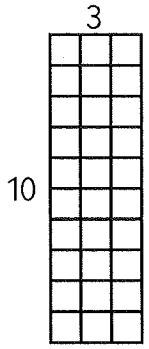
a

$10 \times 3 = 30$

$\_\_\_\_ \times \_\_\_\_ = \_\_\_\_$

$30 \div 3 = 10$

$30 \div 10 = 3$



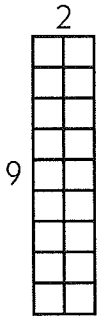
b

$2 \times 9 = 18$

$\_\_\_\_ \times \_\_\_\_ = \_\_\_\_$

$18 \div 2 = 9$

$18 \div 9 = 2$



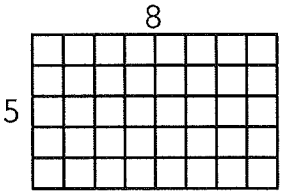
c

$5 \times 8 = 40$

$8 \times 5 = 40$

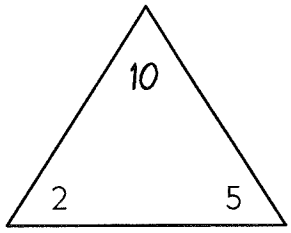
$\_\_\_\_ \div \_\_\_\_ = \_\_\_\_$

$40 \div 8 = 5$



2 Fill in the missing number in each triangle and then write the fact family.

example



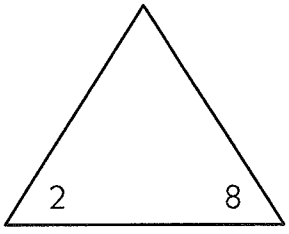
$2 \times 5 = 10$

$5 \times 2 = 10$

$10 \div 2 = 5$

$10 \div 5 = 2$

a



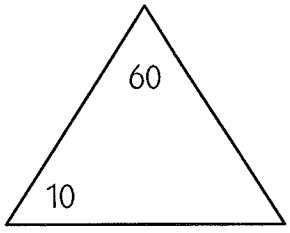
$\_\_\_\_ \times \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \times \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \div \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \div \_\_\_\_ = \_\_\_\_$

b



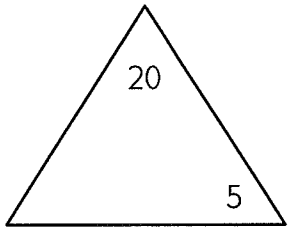
$\_\_\_\_ \times \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \times \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \div \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \div \_\_\_\_ = \_\_\_\_$

c



$\_\_\_\_ \times \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \times \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \div \_\_\_\_ = \_\_\_\_$

$\_\_\_\_ \div \_\_\_\_ = \_\_\_\_$

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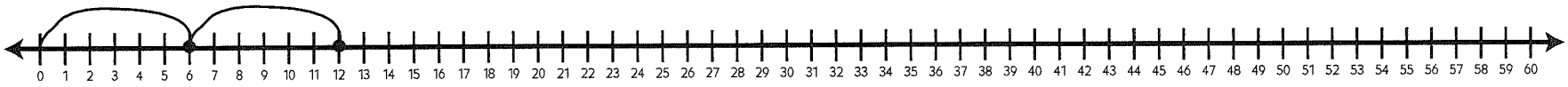
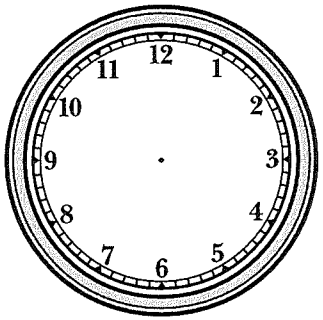
Seconds & Minutes

1 Fill in the missing numbers in the count-by-6 pattern. Use the number line to help.



6, 12, _____ , _____, 30, _____, 42, _____, 54, _____



2a How many seconds are in 1 minute? _____

b How many seconds are in 2 minutes? _____ Show your work.

c How many seconds are in 5 minutes? _____ Show your work.

d How many seconds are in 9 minutes? _____ Show your work.

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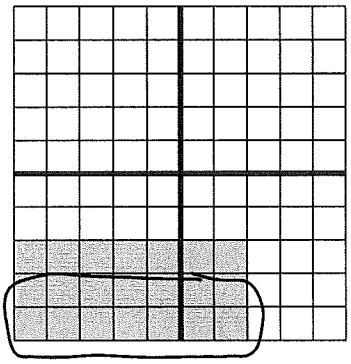
Multiplication Arrays

1 Complete the multiplication facts.

3 × 4	3 × 3	4 × 6	4 × 4	6 × 3	3 × 8	4 × 9
6 × 7	3 × 9	5 × 2	3 × 5	5 × 4	4 × 7	8 × 0

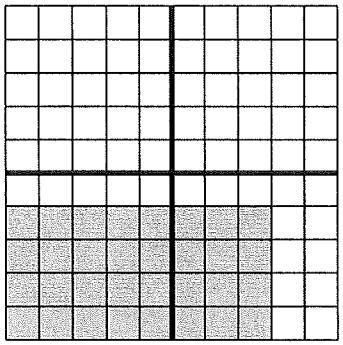
2 Use the array to show how you could solve each fact.

example $3 \times 7 =$ 21

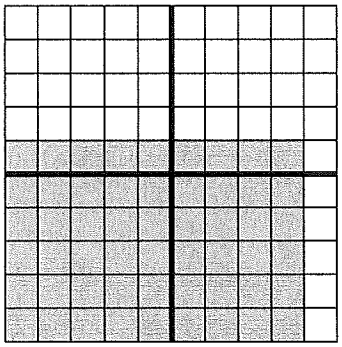


2 × 7 = 14
14 + 7 = 21

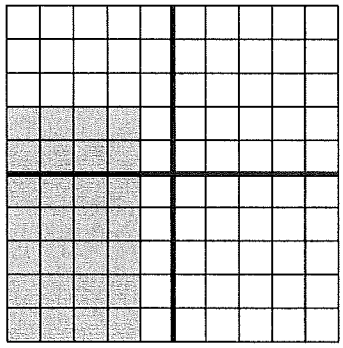
a $4 \times 8 =$ _____



b $6 \times 9 =$ _____



c $7 \times 4 =$ _____



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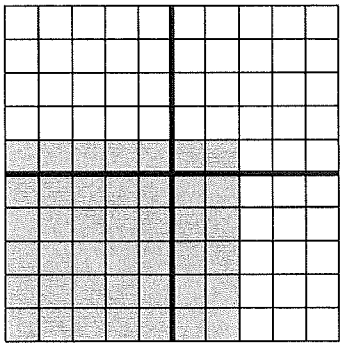
Missing Numbers & Fact Families

1 Fill in the missing numbers below.

2 × □ = 12	□ × 3 = 27	7 × □ = 14	□ × 3 = 30	□ × 2 = 10	10 × □ = 0
4 × 3 = □	10 × □ = 70	4 × 5 = □	7 × 3 = □	6 × □ = 18	□ × 6 = 30

2 Write the multiplication and division fact family that goes with each array. Use the arrays to find each product if you need to.

a



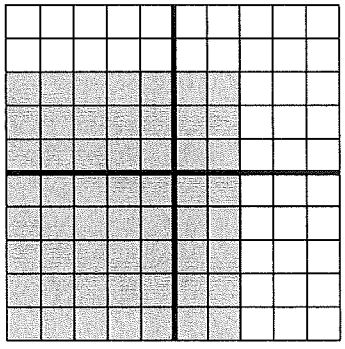
____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

b



____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

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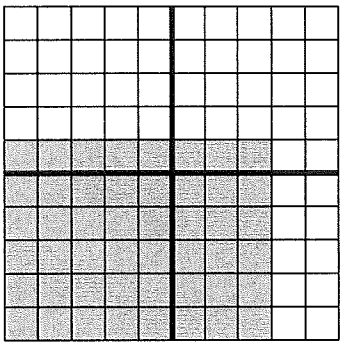
More Missing Numbers & Fact Families

1 Write the multiplication and division fact family that goes with the array. Use the array to find the product if you need to.

a



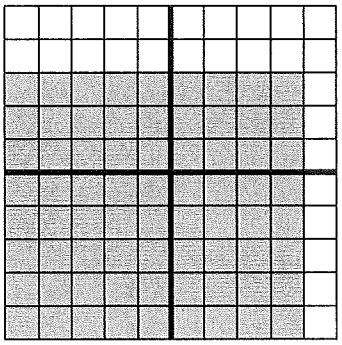
____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

b



____ × ____ = ____

____ × ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

2 Fill in the missing numbers below.

4 × □ = 24	□ × 4 = 12	2 × □ = 16	□ × 5 = 50	5 × 7 = □	4 × □ = 16
5 × 6 = □	6 × 6 = □	9 × □ = 27	2 × 9 = □	7 × □ = 49	4 × 7 = □
8 × 4 = □	□ × 9 = 36	6 × □ = 48	□ × 3 = 21	9 × 6 = □	5 × 8 = □

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Grams & Kilograms

There are 1,000 grams in 1 kilogram.

1 John's cat weighs 5 kilograms. How many grams is that?

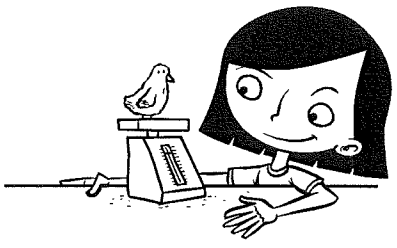
2 Carly's dog weighs 18 kilograms. How many grams is that?

3 Ramona weighs 27 kilograms. How many grams is that?

4 John's cat had kittens. One of them weighed 500 grams. How many kilograms is that?

5 Frank was measuring out some peanuts. He wanted exactly 1 kilogram of peanuts. So far, he has 300 grams. How many more grams does he need to get exactly 1 kilogram of peanuts? Show all of your work.

6 One baby chick weighs about 50 grams. How many baby chicks would it take to make 1 kilogram? Show all of your work.



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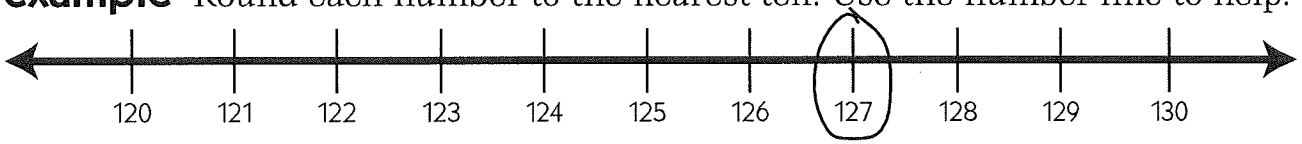
Rounding to the Nearest Ten

You can use a number line to help round to the nearest ten. If the digit in the ones place is 5 or higher, round up. If the digit in the ones place is less than 5, round down.

example Round each number to the nearest ten. Use the number line to help.

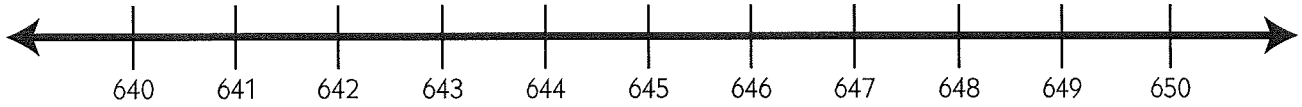


a 127 130

1 Round each number to the nearest ten. Use the number line to help.

a 267 _____ **b** 262 _____ **c** 265 _____

2 Round each number to the nearest ten. Use the number line to help.



a 645 _____ **b** 641 _____ **c** 646 _____

3 Round each number to the nearest ten. (Look at the digit in the ones place. Think about a number line if it helps you.)

a 132 _____ **b** 365 _____ **c** 646 _____

d 282 _____ **e** 617 _____ **f** 539 _____

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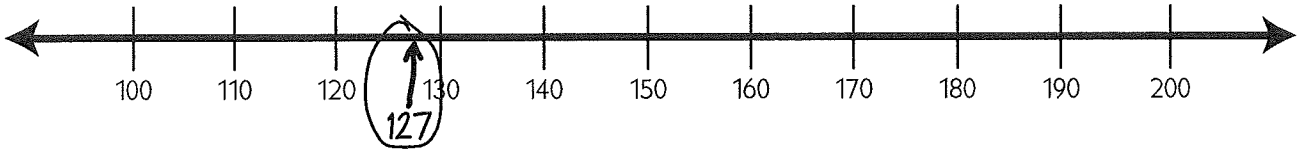
Rounding to the Nearest Hundred

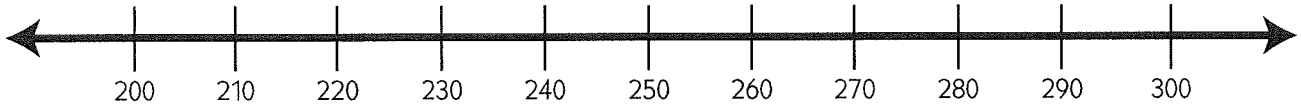
You can use a number line to help round to the nearest hundred. If the digit in the tens place is 5 or higher, round up. If the digit in the tens place is less than 5, round down. *You don't need to think about the number in the ones place.*

example Round each number to the nearest hundred. Use the number line to help.



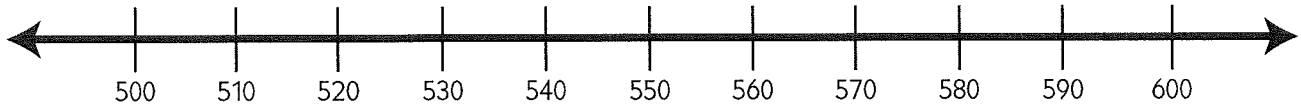
a 127 100

1 Round each number to the nearest hundred. Use the number line to help.



a 217 _____ **b** 256 _____ **c** 283 _____

2 Round each number to the nearest hundred. Use the number line to help.



a 560 _____ **b** 507 _____ **c** 552 _____

3 Round each number to the nearest hundred. (Look at the digit in the tens place. Think about a number line if it helps you.)

a 552 _____ **b** 389 _____ **c** 249 _____

d 438 _____ **e** 817 _____ **f** 270 _____

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Round, Estimate & Find the Sum

Before you start adding numbers, it is a good idea to estimate what their sum will be. That way, you can tell if your final answer is reasonable. Round each pair of numbers to the nearest ten and then add the rounded numbers to estimate the sum. Then use the standard algorithm to find the exact sum.

Numbers to Add	Round and Add	Estimated Sum	Exact Sum (use the algorithm)
ex 348 + 173	1 350 +170 520	The sum will be about 520.	1 1 348 + 173 521
1 267 + 338		The sum will be about _____.	267 + 338
2 438 + 583		The sum will be about _____.	438 + 583
3 842 + 159		The sum will be about _____.	842 + 159

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Estimates & Exact Answers

1 Use estimation to answer each question *yes* or *no.*

a Sue has $346 dollars. She wants to buy a bike and still have $150 left. She found a bike that costs $189. Can she buy it and still have $150 left?

b Bruce decided to give away some of his 400 baseball cards. He wants to keep at least 150 of them. If Bruce gives one friend 167 cards and another friend 112 cards, will he have at least 150 left?

c Luis and Carlos are in a reading contest to see who can read the most pages. Luis wants to win by at least 150 pages. Carlos read 427 pages. If Luis reads 526 pages, will he win by at least 150 pages?

2 First estimate the difference between the two numbers. You could round them and then subtract, or you could think about what you have to add to the smaller number to get to the bigger number. Then find the exact difference between the two numbers. Check your answer with your estimate to be sure it makes sense: if it doesn't make sense, check your work or do it another way.

Numbers to Subtract	Estimated Difference	Exact Difference
a 487 − 309		
b 1,825 − 643		

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Place Value Four-Digit Numbers

1 Complete each equation by writing each number in standard form.

example 8,000 + 20 + 6 = 8,026

a 4,000 + 800 + 30 + 1 = _____

b 9,000 + 400 + 60 + 2 = _____

c _____ = 7,000 + 60 + 2

d 5,000 + 300 + 80 = _____

e _____ = 2,000 + 100 + 4

2 Fill in the missing numbers or words.

Numbers	Words
ex a 5,629	five thousand six hundred twenty-nine
ex b 3,082	three thousand eighty-two
a	two thousand twelve
b	eight thousand five hundred sixty-seven
c 6,032	
d 1,583	

3 Use your estimation skills to answer each question *yes* or *no* without adding or subtracting to find an exact answer.

a The Lighting Bolts need 200 points to make it to the next round of the basketball tournament. So far, they have 154 points. If they score 37 more points by the end of the game, will they make it to the next round?

b Simon has $300 to spend. Can he afford to buy a bike for $150, safety lights for $34, and a good helment for $56?

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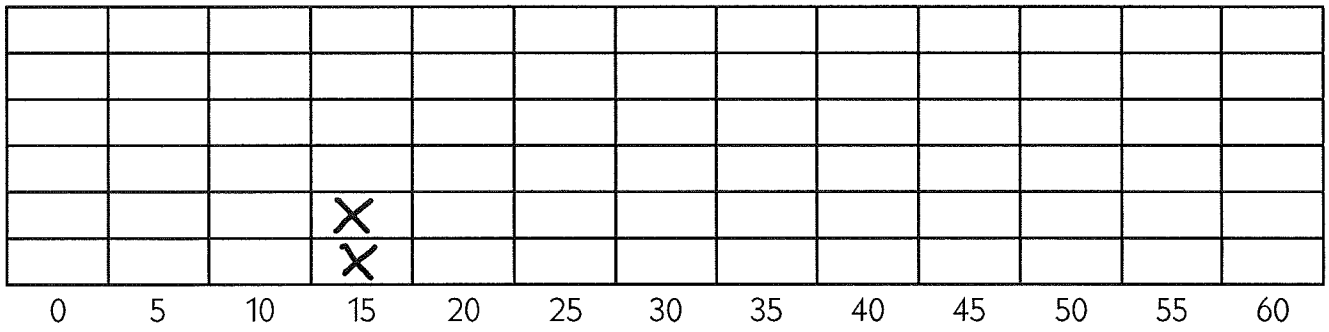
Too Much Homework?

Mrs. Flowers' fourth graders complained that they were spending too much time on their homework, so she asked them to collect information about how many minutes they spent on their homework each night. The table below shows the results.

Time Spent Each Night (minutes)	15	20	25	30	35	40	45	50	55	60
Number of Students	2	3	1	5	3	3	2			1

1 Use the information from the table to complete the line plot below.

Minutes Spent on Homework Each Night



2 What does each X stand for on the line plot?

3 How many students said they spend 40 minutes on their homework each night?

4 Mrs. Flowers says she thinks her students should spend between 30 and 40 minutes on homework each night. Do you think she is giving her students the right amount of homework? Use information from the line plot and table to back up your answer.

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Division & Fractions

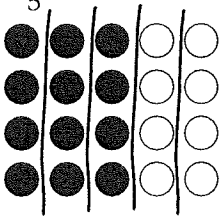
1 Complete the division facts. They may help you with the next problem.

a $20 \div 5 =$ _____ **b** $20 \div 10 =$ _____ **c** $18 \div 2 =$ _____

d $18 \div 3 =$ _____ **e** $18 \div 6 =$ _____ **f** $18 \div 9 =$ _____

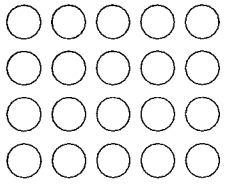
2 Divide each set into equal groups. Shade in some circles as directed.

ex Shade in $\frac{3}{5}$ of the circles.

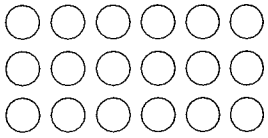


5 equal groups, 3 groups are shaded in.

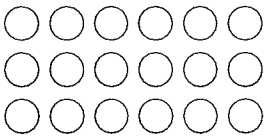
a Shade in $\frac{2}{10}$ of the circles. Hint: *Divide the set into 10 equal groups.*



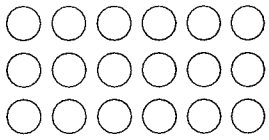
b Shade in $\frac{1}{2}$ of the circles. Hint: *Divide the set into 2 equal groups.*



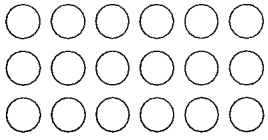
c Shade in $\frac{2}{6}$ of the circles. Hint: *Divide the set into 6 equal groups.*



d Shade in $\frac{1}{3}$ of the circles. Hint: *Divide the set into 3 equal groups.*



e Shade in $\frac{4}{9}$ of the circles. Hint: *Divide the set into 9 equal groups.*



3a Find two fractions above that are equal. Write them here:

b How do you know these fractions are equal?

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More Division & Fractions

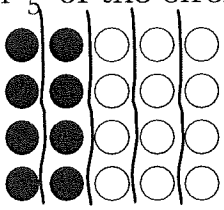
1 Complete the division facts. They may help you with the next problem.

a $20 \div 5 =$ _____ **b** $20 \div 10 =$ _____ **c** $18 \div 2 =$ _____

d $18 \div 3 =$ _____ **e** $18 \div 6 =$ _____ **f** $18 \div 9 =$ _____

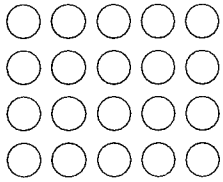
2 Divide each set into equal groups. Shade in some circles to show each fraction. (Hint: The denominator (bottom number) shows how many equal groups. The division problems above will help you think about how many circles should be in each equal group.)

ex Shade in $\frac{2}{5}$ of the circles.

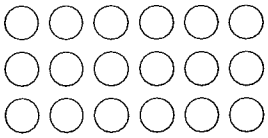


5 equal groups. 2 groups are shaded in.

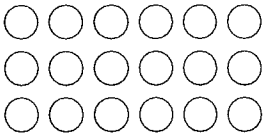
a Shade in $\frac{4}{10}$ of the circles.



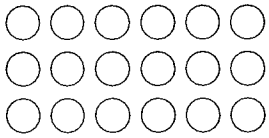
b Shade in $\frac{3}{6}$ of the circles.



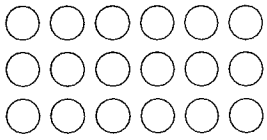
c Shade in $\frac{5}{6}$ of the circles.



d Shade in $\frac{2}{3}$ of the circles.



e Shade in $\frac{8}{9}$ of the circles.



3 Which fraction or fractions above are less than $\frac{1}{2}$?

4 Write <, >, or = to compare two fractions. Use the pictures above to help.

a $\frac{2}{5}$ $\frac{2}{3}$	**b** $\frac{5}{6}$ $\frac{8}{9}$	**c** $\frac{3}{6}$ $\frac{2}{3}$

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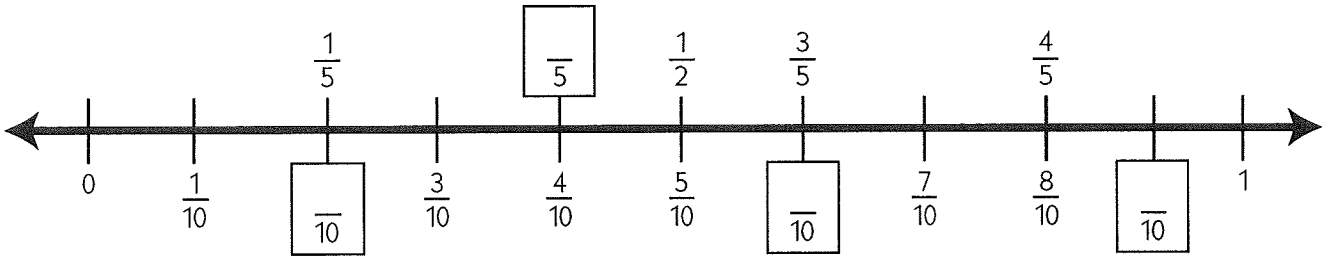
Fractions on the Number Line

1 Fill in the missing numerators on the number line below.



2 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 tables below.

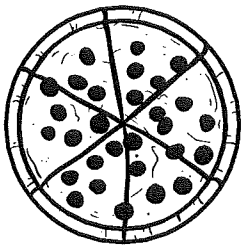
Circle the fraction that is greater than $\frac{1}{2}$.	Write a number sentence showing which fraction is greater.
example $\frac{3}{5}$ or $\frac{3}{10}$	$\frac{3}{5} > \frac{3}{10}$
a $\frac{2}{5}$ or $\frac{8}{10}$	
b $\frac{4}{5}$ or $\frac{4}{10}$	

Circle the fraction that is greater.	Write a number sentence showing which fraction is greater.
c $\frac{3}{5}$ or $\frac{7}{10}$	
d $\frac{9}{10}$ or $\frac{4}{5}$	
e $\frac{6}{10}$ or $\frac{4}{5}$	

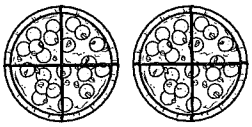
NAME _____ DATE _____

Pizza Problems

1 Jim and Emma were eating pizza for lunch. Jim ate $\frac{2}{6}$ of the pizza. Emma ate $\frac{3}{6}$ of the pizza. How much pizza did they eat altogether? Use pictures, numbers, and/or words to explain how you got the answer.

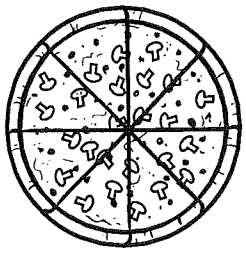


2 Rosa and Carmen made two mini-pizzas for lunch. They cut both pizzas into fourths. Rosa ate $\frac{3}{4}$ of a pizza. Carmen ate $\frac{3}{4}$ of a pizza. Altogether, how much pizza did they eat? Use pictures, numbers, and/or words to explain how you got the answer.



CHALLENGE

3a Carl and his brother Noel ordered a pizza. Carl ate $\frac{1}{4}$ of the pizza. Noel ate $\frac{3}{8}$ of the pizza. How much of the pizza did they eat altogether? Use pictures, numbers, and/or words to explain how you got the answer.



b How much of the pizza was left after Carl and Noel were done eating? Use pictures, numbers, and/or words to explain how you got the answer.

NAME _____ DATE _____

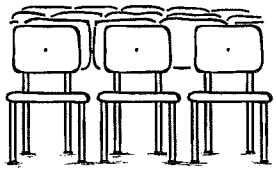
Money & Chair Problems

1 Jasmine's neighbor paid her $32 for helping with some yard work. Jasmine gave her brother $8 because he helped her with some of the work. Then she went shopping with the rest of the money. She bought 3 books that were $6 each and a bottle of juice for $1.89. How much money did she have left? Show all your work.

2a The third graders are putting on a play for the fourth and fifth graders. They need to set up chairs in the gym for the fourth and fifth graders to sit on. There are 86 fourth graders, 79 fifth graders, 3 fourth grade teachers, and 3 fifth grade teachers. How many chairs will the third graders need to set up? Show all your work.

CHALLENGE

b The third graders can put no more than 20 chairs in a row. How many rows of chairs will they need? Show all your work.



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Larger Multiplication

You can break a two-digit number into tens and ones to multiply it by another number. Use this method to solve the multiplication problems below.

Problem	Break larger numbers into tens and ones. Then multiply.	Add the two products.	Your Answer
ex 16 × 4	10 × 4 = 40 and 6 × 4 = 24 Break 16 into 10 and 6. Multiply both by 4	40 + 24 = 64	16 × 4 = 64
1 14 × 4			14 × 4
2 13 × 6			13 × 6
3 15 × 7			15 × 7
4 18 × 8			18 × 8

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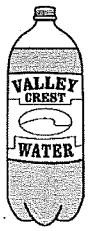
Liters & Quarts

1 Use this information to answer the questions below.

- A liter is about equal to a quart.
- A liter is a little bit more than a quart.



liter

quart

a Soda comes in 2-liter bottles. About how many quarts are in a 2-liter bottle of soda?	**b** There are exactly 4 quarts in a gallon. Are there more than 4 liters or fewer than 4 liters in a gallon? Use pictures, numbers, and/or words to explain how you know.

2 Complete the addition and subtraction problems.

347	904	6,078	803	347	4,843
+ 826	+ 148	+ 2,989	− 416	− 252	− 2,176

3 John read 176 pages last month. This month he read 483 pages. Frannie read 245 pages last month. This month she read 861 pages. Who made a bigger jump in the number of pages they read, John or Frannie? Without doing the subtraction, explain how you can tell.

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Lemonade & Bracelets

1a Philipe is making lemonade with his dad to serve at their party. Their recipe makes 6 glasses of lemonade. The recipe calls for 4 lemons, 1 cup of sugar, and 6 cups of water. If they want to make enough lemonade for 30 people to drink a glass, how many lemons will they need to buy?

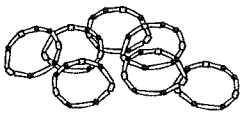
b Use words, numbers, or pictures to explain how you know your answer above makes sense.

2a Lisa is making bracelets for four of her friends. She needs 18 beads for each bracelet. How many beads does she need altogether?

b Use words, numbers, or pictures to explain how you know your answer above makes sense.

CHALLENGE

c If each bead costs 15¢, how much would it cost for Lisa to buy all those beads? Show your work.



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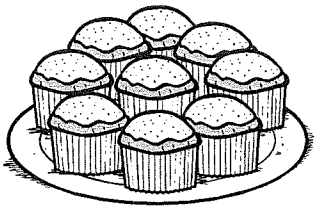
Pencils & Cupcakes

1a Mr. Sutton bought 36 mechanical pencils to give away as prizes for his students. $\frac{1}{4}$ of the pencils were red and $\frac{1}{3}$ of the pencils were purple. Were there more red or purple pencils? Use pictures, numbers, and/or words to explain how you know.

CHALLENGE

b The rest of the pencils were yellow. How many yellow pencils did Mr. Sutton buy? Use pictures, numbers, and/or words to explain your answer.

2a Ellie made 24 cupcakes to take to her friend's party. She put vanilla icing on them all. Then she put chocolate sprinkles or red sugar on some of them. She put chocolate sprinkles on $\frac{1}{4}$ of them. She put red sugar on $\frac{1}{2}$ of them. She left the rest of them plain. What did most of her cupcakes have on them?



CHALLENGE

b What fraction of Ellie's cupcakes had no sprinkles or sugar on top? How many cupcakes was that? Use pictures, numbers, and/or words to explain your answers.