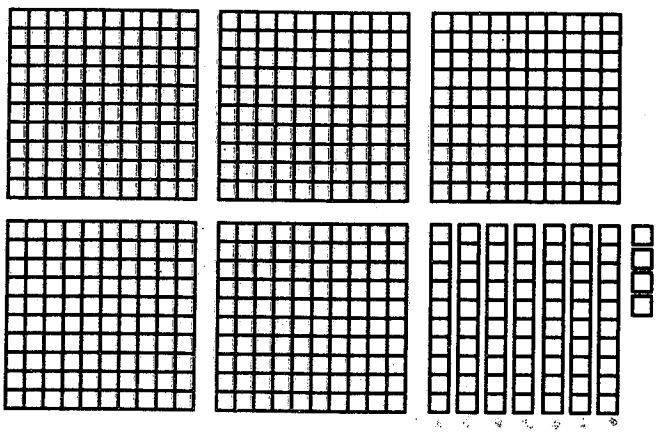
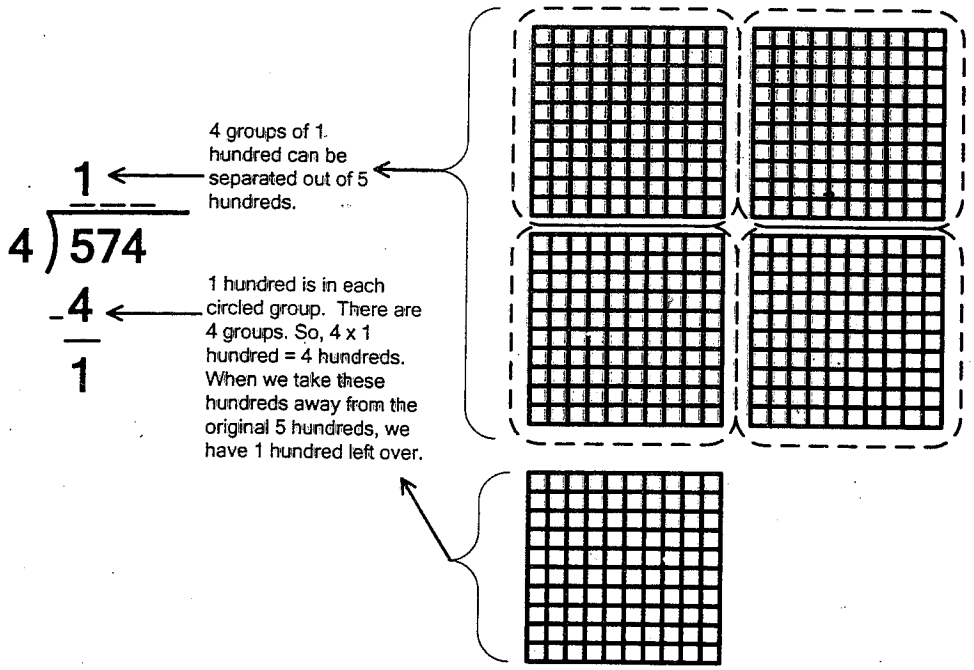
Division with Base-Ten Blocks – Part 1 (pp. 1 of 4)

Problem:
A box contains 574 balloons that need to be separated into 4 packages with an equal amount of balloons in each package. How many balloons will be in each package?

(1) Model total number of balloons with base-ten blocks:

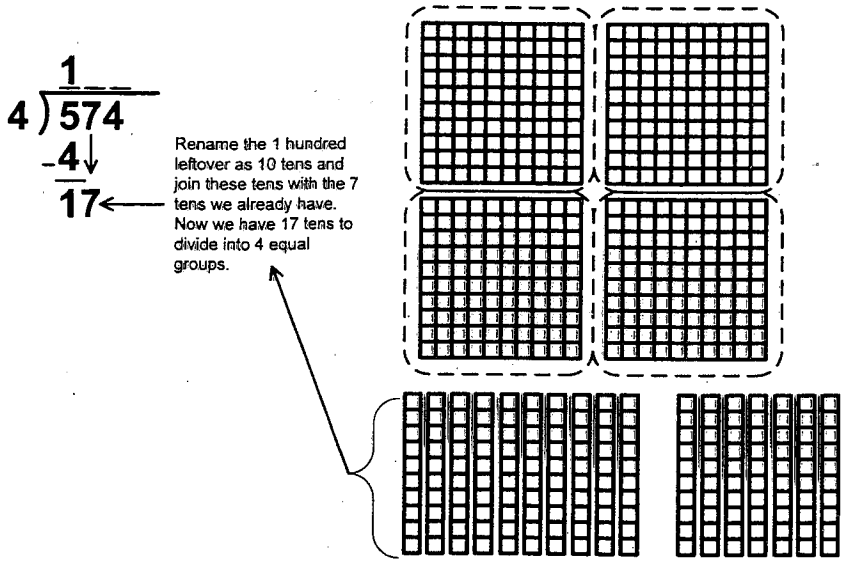


(2) Separate the hundreds:

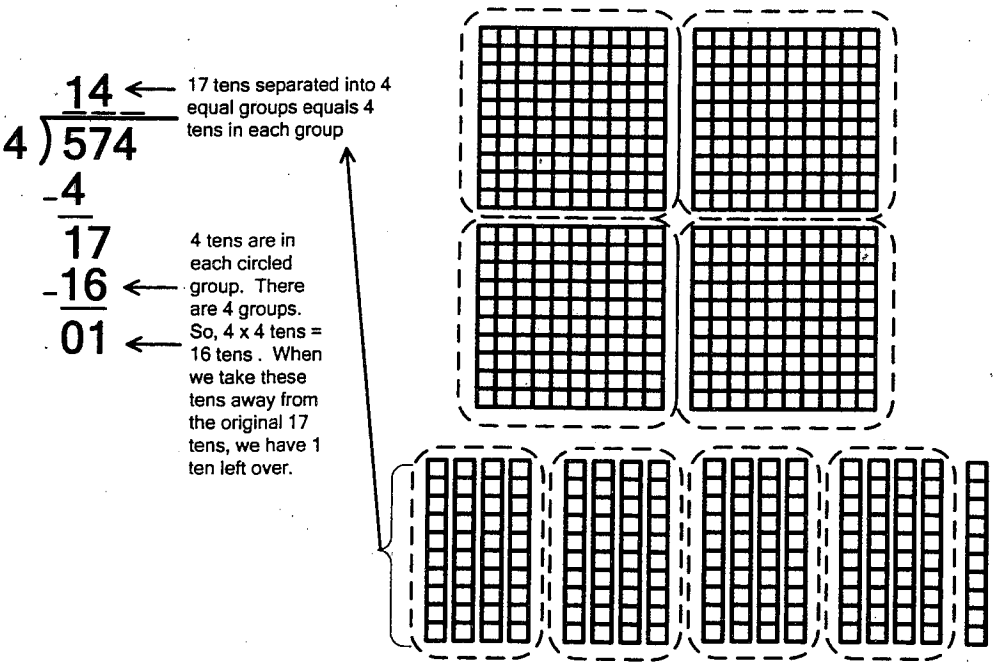


Division with Base-Ten Blocks – Part 1 (pp. 2 of 4)

(3) Rename the leftover hundred:

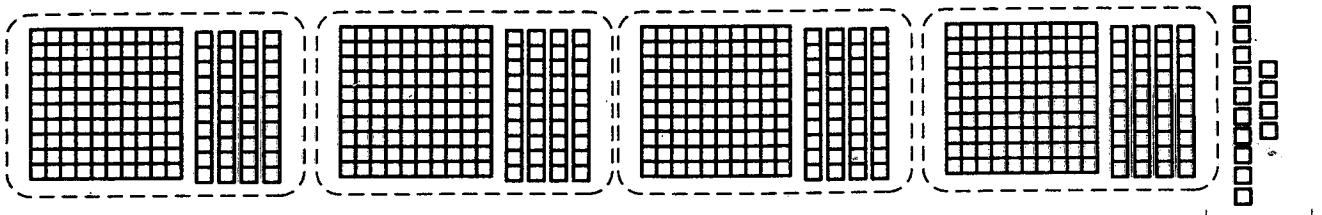


(4) Separate the tens:



Division with Base-Ten Blocks – Part 1 (pp. 3 of 4)

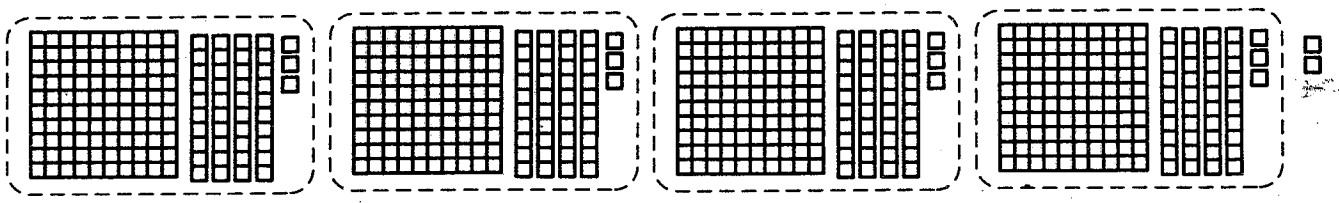
(5) Rename the leftover ten:



$$\begin{array}{r} 14 \\ 4\overline{)574} \\ -4 \\ \hline 17 \\ -16 \\ \hline 014 \end{array}$$

Rename the 1 ten leftover as 10 ones and join these ones with the 4 ones we already have. Now we have 14 ones to divide into 4 equal groups.

(6) Separate the ones:



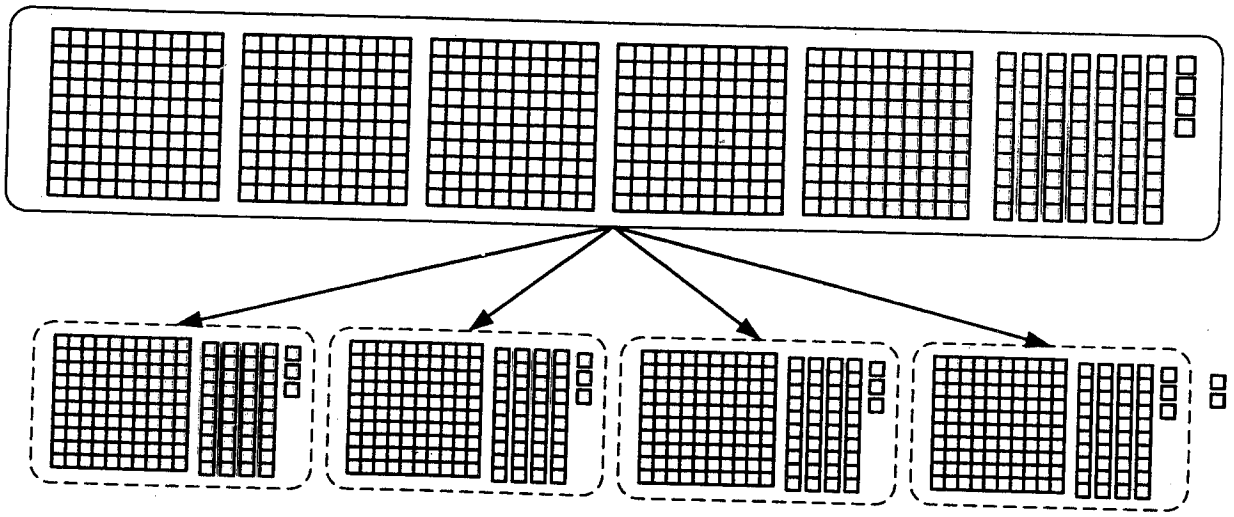
$$\begin{array}{r} 143 \\ 4\overline{)574} \\ -4 \\ \hline 17 \\ -16 \\ \hline 014 \\ 12 \\ \hline 02 \end{array}$$

14 ones separated into 4 equal groups equals 3 ones in each group.

3 ones are in each circled group. There are 4 groups. So, 3 x 4 = 12 ones . When we take these ones away from the original 14 ones, we have 2 ones left over.

Division with Base-Ten Blocks – Part 1 (pp. 4 of 4)

(7) How can this solution be represented with numbers?



574 balloons ÷ 4 packages = 143 balloons per package with 2 leftover

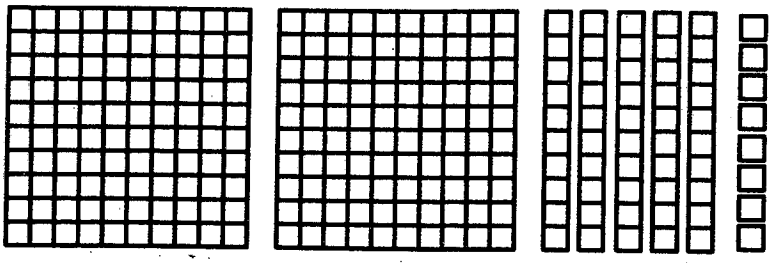
$$4 \text{ packages} \overline{)\ 574 \text{ balloons}} \quad 143 \text{ balloons per package with 2 balloons leftover}$$

$$\frac{574 \text{ balloons}}{4 \text{ packages}} = 143 \text{ balloons per package with 2 balloons leftover}$$

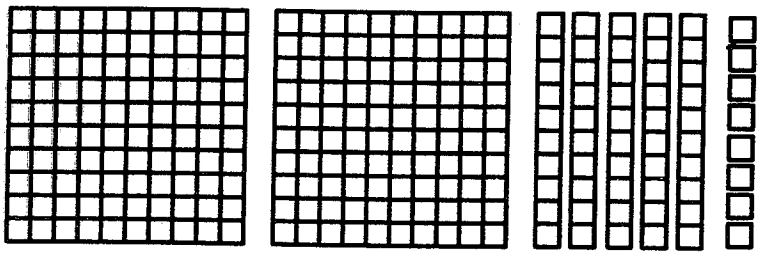
Division with Base-Ten Blocks – Part 2 (pp. 1 of 4)

Problem:
Kassie has collected 258 chess pieces and wants to store them in 11 boxes. If each box contains the same number of chess pieces, will she have enough boxes to store all of her pieces?

(1) Model total number of chess pieces with base-ten blocks:



(2) Separate the hundreds (if possible):



$$\begin{array}{r} 0 \\ \hline 11\overline{)258} \\ -0\downarrow \\ \hline 25 \end{array}$$

We cannot divide the 2 hundreds into 11 equal groups of hundreds.

Rename the 2 hundreds that were leftover as 20 tens. Join the 20 tens with the 5 tens we already have. Now there are 25 tens to divide into equal groups.

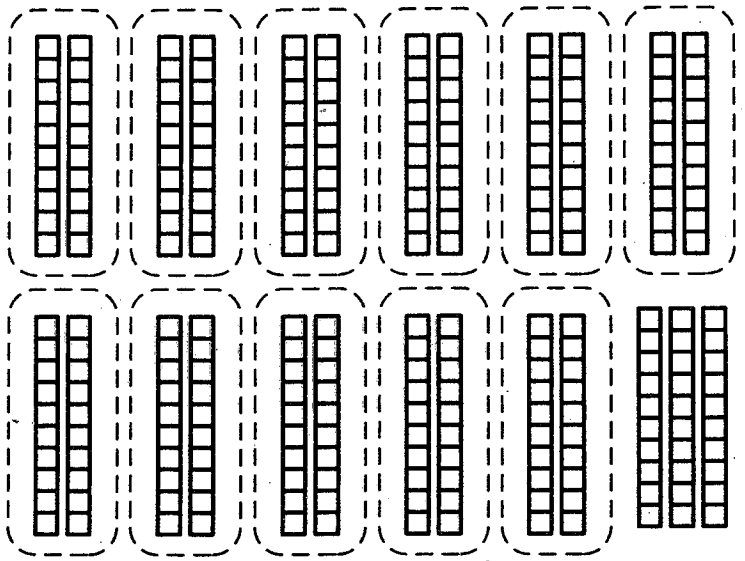
Division with Base-Ten Blocks – Part 2 (pp. 2 of 4)

(3) Rename the hundreds:

$$\begin{array}{r} 2 \\ 11\overline{)258} \\ -0 \\ \hline 25 \\ -22 \\ \hline 3 \end{array}$$

25 tens separated into 11 equal groups equals 2 tens in each group.

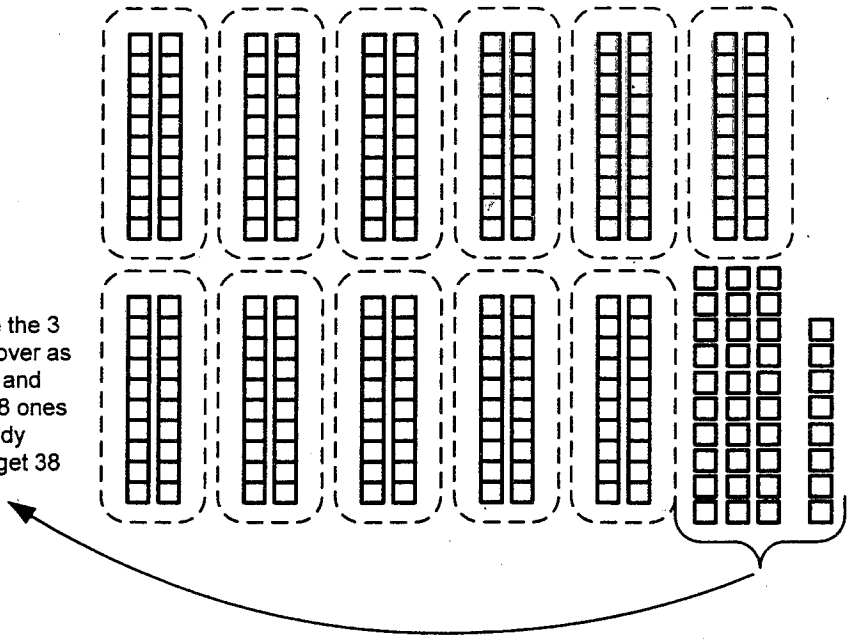
2 tens in each group x 11 groups = 22 tens. We have 3 tens leftover.



(4) Rename the leftover tens:

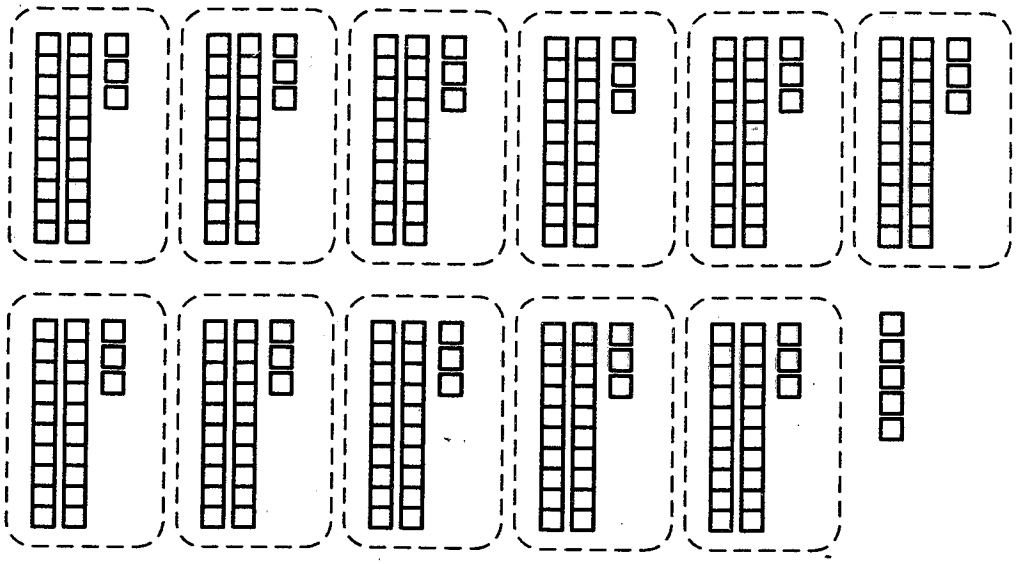
$$\begin{array}{r} 2 \\ 11\overline{)258} \\ -0 \\ \hline 25 \\ -22 \\ \hline 38 \end{array}$$

Rename the 3 tens leftover as 30 ones and add the 8 ones we already have to get 38 ones.



Division with Base-Ten Blocks – Part 2 (pp. 3 of 4)

(5) Separate the ones:



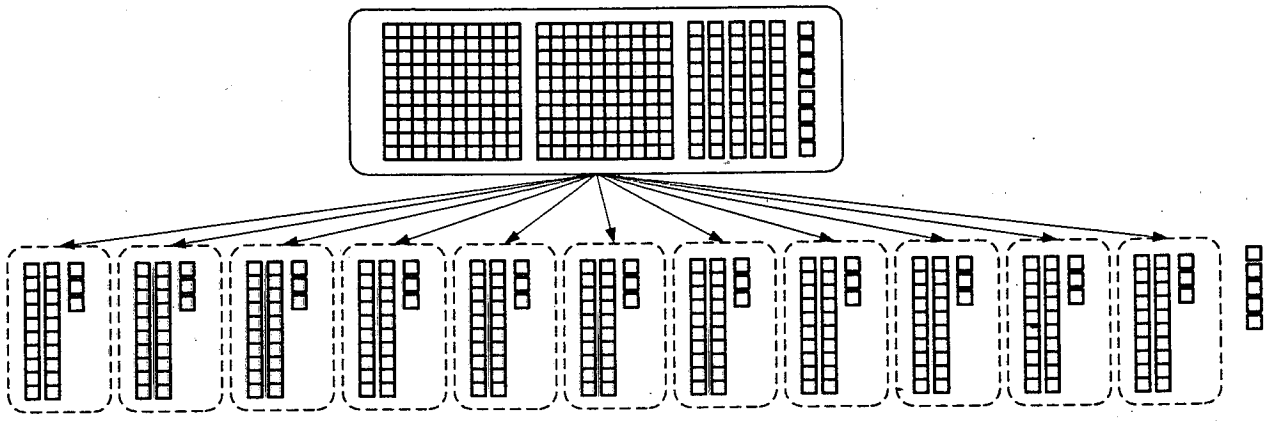
$$
\begin{array}{r}
\,23 \\
11\overline{)\,258} \\
-0 \\
\hline
25 \\
-22 \\
\hline
38 \\
-33 \\
\hline
05
\end{array}
$$

38 ones separated into 11 equal groups equals 3 in each group.

3 ones are placed into 11 equal groups. So, 11 x 3 = 33 ones with 5 ones leftover.

Division with Base-Ten Blocks – Part 2 (pp. 4 of 4)

(6) How can this solution be represented with numbers?



258 chess pieces ÷ 11 boxes = 23 pieces per box with 5 leftover

23 chess pieces per box with 5 leftover

11 boxes) *258 chess pieces*

$$\frac{\textit{258 chess pieces}}{\textit{11 boxes}} = \textit{23 chess pieces with 5 leftover}$$

Write the question & answer.

Stretch

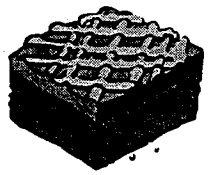
Put 147 into 3 groups.
How many are in each group?

Model

Words

Numbers

Brownie Problem



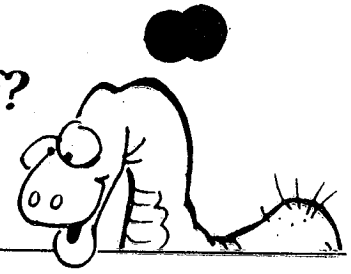
- Use base-ten blocks to solve this problem.
- Discuss and agree on your plan with your partner.
- Carry out your plan with your partner.
- Use the table to record your process.

There are 126 brownies to sell at a summer fair. If there are 9 brownies in each package, how many packages of brownies need to be sold?

Model:
Words:
Numbers:

Name: _____

What Is Green, Turns In Circles, and Scratches Itself?



Find the answer to each exercise in the set of answers under the exercise. Cross out the letter above each answer. When you finish, the answer to the title question will remain!

(1) $4\overline{)593}$ × 148 R1

$-4\downarrow$

19

$-16\downarrow$

33

-32

1

(2) $3\overline{)887}$

(3) $7\overline{)964}$

(4) $5\overline{)2{,}918}$

(5) $8\overline{)6{,}760}$

(6) $6\overline{)1{,}789}$

(7) 5,285 ÷ 9

(8) 1,459 ÷ 4

(9) Spa World advertised on the radio for 3 minutes on Saturday and 2 minutes on Sunday. The total cost was $3,375. What was the cost per minute?

(10) $7\overline{)4{,}801}$

(11) $3\overline{)954}$

(12) $8\overline{)5{,}917}$

(13) $2\overline{)905}$

(14) $6\overline{)4{,}420}$

(15) $9\overline{)6{,}159}$

(16) 972 ÷ 5

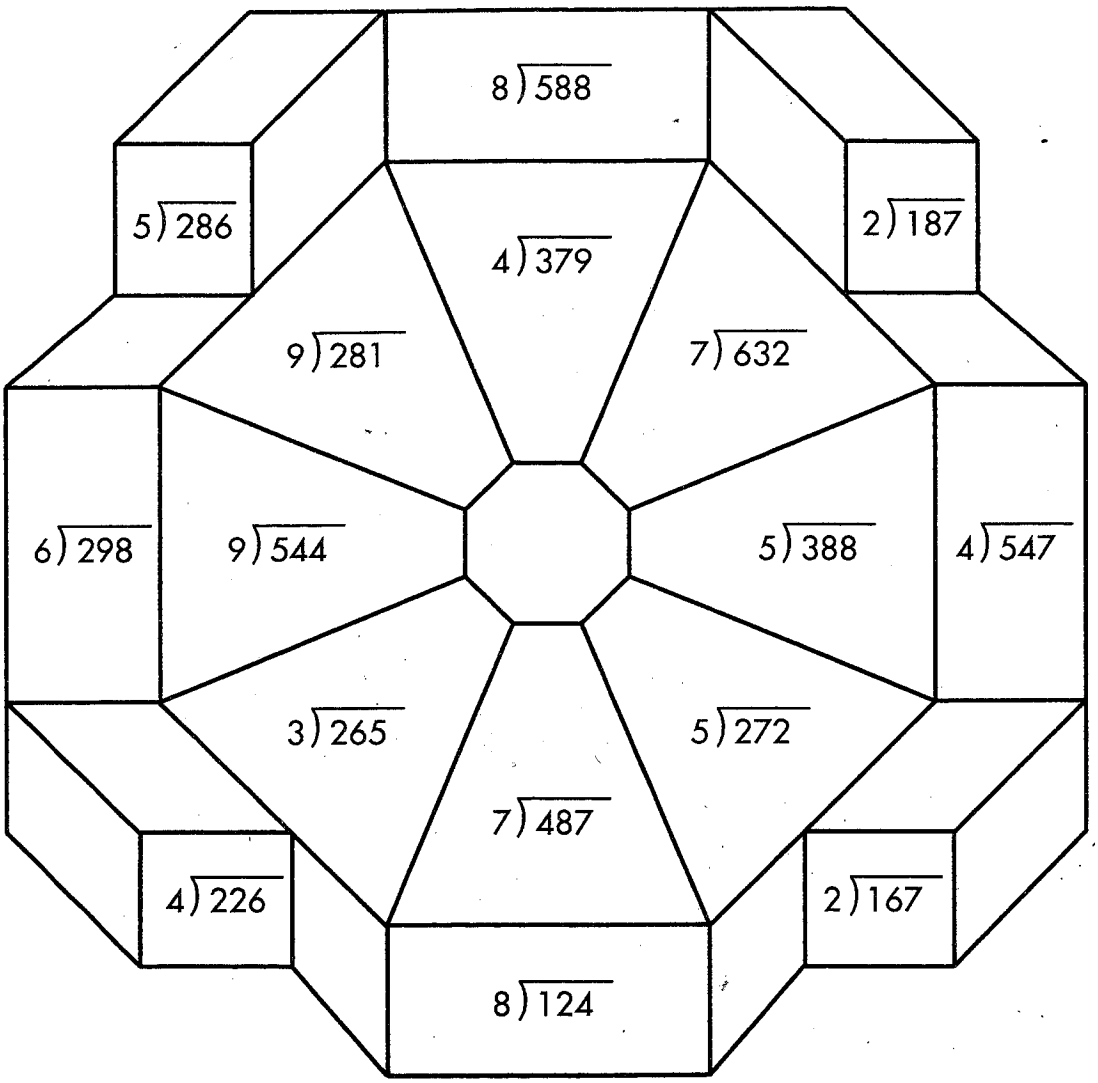
(17) 6,587 ÷ 7

(18) Dr. Drat had a hot tub built for $7,500. He made a down payment of $2,500 and then paid the balance in 8 equal payments. How much was each payment?

R	A	G	S	O	T	P	U	I	X	R	N	D	L	I	M	T	E	O	C	A	R	U	H	I	P
583 R3	298 R1	295 R2	844 R3	$675	845	$635	364 R3	585 R1	148 R1	587 R2	363 R2	137 R5	452 R1	737 R3	684 R3	195 R4	739 R5	$625	942 R3	194 R2	736 R4	685 R6	$645	941	318

Name _____

Octagon Remainders



Solve the problems. Then color the design. Here's how:

1. Choose three colors that you like.
2. Write the name of one of the colors on each line below.
3. Color the design.

If the remainder is 1 or 2, color the shape _____.

If the remainder is 3 or 4, color the shape _____.

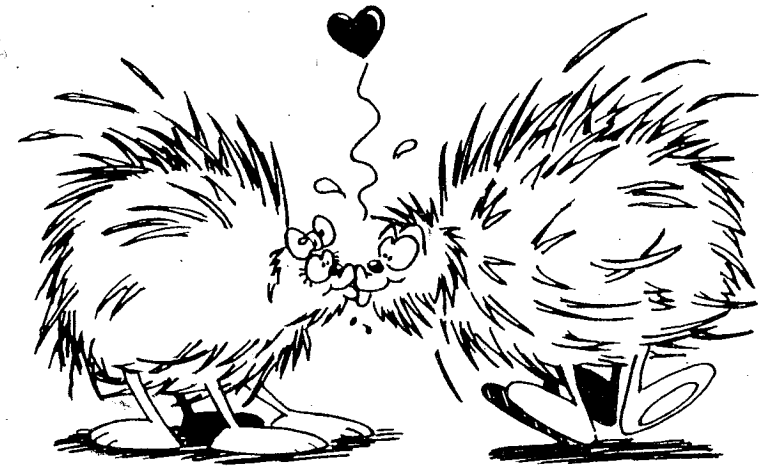
If the remainder is 5 or 6, color the shape _____.

Finish the design by coloring the other shapes with the colors of your choice.

Taking It Further: Write four numbers greater than 100 that when divided by 8 have four different remainders.

Dazzling Math Line Designs Scholastic Professional Books

What Sound Do Two Porcupines Make When They Kiss?



This multiplication table contains exactly 54 correct answers. The others are incorrect. Shade in each box that contains a CORRECT answer. Be sure to use pencil so you can erase if necessary.

×	2	7	0	6	8	4	9	3	1	5	7	10	9	6
4	8	28	0	35	32	12	36	10	4	20	30	40	38	24
7	14	49	0	40	56	25	63	15	7	35	45	70	62	42
9	18	48	0	55	72	30	81	18	9	46	60	90	81	54
6	12	44	0	20	48	30	54	17	6	32	25	60	54	36
8	16	56	0	49	64	32	72	16	8	40	61	80	81	48
3	6	21	0	12	24	12	27	12	3	15	24	30	36	18

① 28×52

② $6\overline{)766}$

③ 101×48

④ $47\overline{)544}$

⑤ $34\overline{)782}$

⑥ 347×89

⑦ $9\overline{)837}$

⑧ 229×31

Interpreting Remainders, Part A

Solve the following problems and categorize the remainder in each problem using the following:

- a quantity left over
- a quantity discarded or not used
- a quantity forced to the next highest whole number
- a quantity partitioned into fraction form

(1) Mr. Carson had a math activity where 23 students needed to be put into 4 groups. How many students will be in each group?

(2) Marcia bought a 48-inch length of ribbon for a sewing project. If she needs pieces of ribbon that are 7-inches in length, how many pieces of ribbon will she be able to cut from her length?

(3) Kai went to the math closet to get calculators for 29 students. The calculators were packed 8 to a box. How many boxes does he need?

(4) Mr. Jackson prepared 27 sandwiches and placed 1 slice of cheese on each sandwich. The cheese slices came in packages with 12 slices in each. How many packages of cheese did Mr. Jackson need to prepare the sandwiches?

Name: _____

Math Without Computing

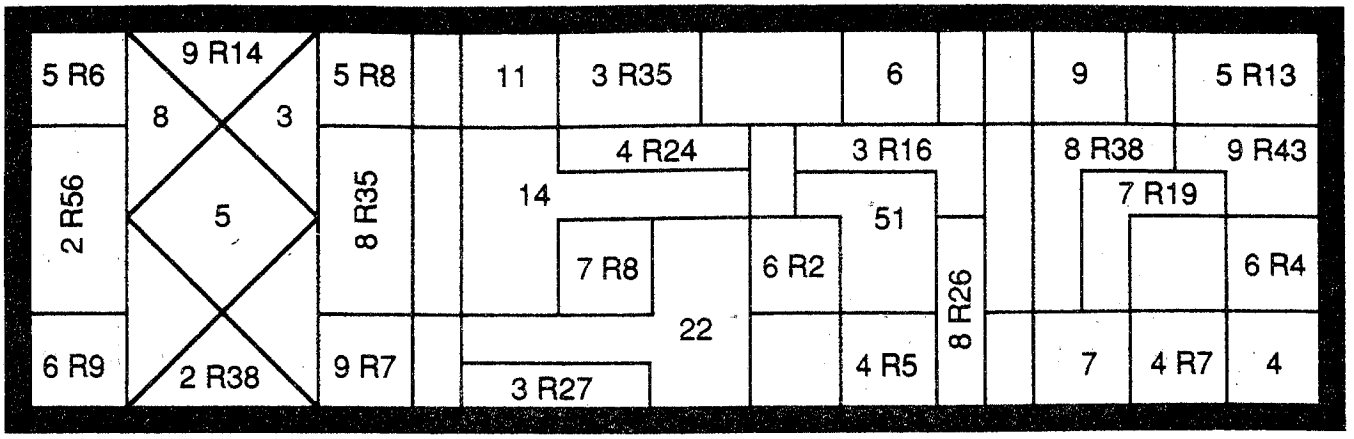
(1) $3\overline{)20}$ = 6 R2	(2) $8\overline{)100}$ = 12 R4	(3) $50\overline{)739}$ = 14 R39

Use the quotients in the box above to answer the following questions:

1	Scott has 100 stamps to put in an album. He puts 8 stamps on each page. use #2 A. How many pages will be completely filled? 12 B. How many stamps will be left for an unfilled page? 4 C. How many pages will be used altogether? 13 (had to round up)
2	A group of 20 friends are going camping. They will sleep in tents that each hold 3 people. A. How many tents will be full? B. How many people will be left for a tent that is not full? C. How many tents will be needed altogether?
3	The 739 students and teachers at Merry Middle School are going on a field trip. Each bus holds 50 passengers. A. How many buses will be full? B. How many people will be left for a bus that is not full? C. How many buses will be needed altogether?
4	Hugo made 100 ounces of lemonade. How many 8-ounce glasses can he fill completely with this amount of lemonade?
5	An orchard has 739 apple trees to plant. If 50 trees are planted in each row, how many are left after the last complete row is planted?
6	The coach needs 20 tennis balls for a tournament. If tennis balls are sold in cans containing 3 balls, how many cans should the coach buy?
7	A total of 100 kids signed up to play soccer at the park. Each team has 8 players. Extra players are substitutes. How many substitutes are there?
8	Maria has $20 to rent video movies. If it costs $3 to rent each movie, how many movies can she rent?
9	A teacher needs 739 sheets of paper for a class project. The paper is sold in packs of 50 sheets each. How many packs should the teacher buy?

Name: _____ * use notebook paper!

Favorite Class at Caterpillar School



The name of the FAVORITE CLASS AT CATERPILLAR SCHOOL is hidden in the rectangle above. To find it, do each exercise and locate your answers in the rectangle. Shade in each area containing a correct answer.

(1) $28\overline{)117}$ (2) $31\overline{)236}$ (3) $66\overline{)338}$ (4) $47\overline{)466}$

(5) $94\overline{)309}$ (6) $56\overline{)486}$ (7) $72\overline{)441}$ (8) $35\overline{)164}$

(9) $89\overline{)623}$ (10) $17\overline{)91}$ (11) $63\overline{)539}$ (12) $40\overline{)136}$

(13) $493 \div 54$ (14) $250 \div 97$ (15) $160 \div 26$

(16) Steve has 276 slides to store in carousels. Each carousel holds 75 slides.
- A. How many carousels will be completely filled?
- B. How many slides will be left for an unfilled carousel?
- C. How many carousels will be needed altogether?

(17) There will be 142 people at the Goldenglob wedding reception. There is room for 16 people at each table.
- A. How many tables will be full?
- B. How many people will be left for an additional table?
- C. How many tables will be needed altogether?

(18) Mr. Jolly is building a fence around his yard, a distance of 272 feet. Each roll of fencing is 50 feet long and costs $69.
- A. How many rolls of fencing should Mr. Jolly buy?
- B. How many rolls will be completely used?
- C. How many feet of fencing will be used from the last roll?

Division with a two-digit divisor

Examples:

(#9)

$$89 \overline{)623} \quad 007$$

-623

000

Questioning	Answer
① Will 89 go into 6?	No - put a zero
② Will 89 go into 62?	No - put a zero
③ Will 89 go into 623?	Yes

(#12)

$$40 \overline{)136} \quad 003 \text{ R. } 16$$

-120

16

↑ remainder cannot be bigger than the divisor (40)

To solve -- Try a short cut...
How many times would 8 go into 62? Hmmm... $8 \times 7 = 56$ and $8 \times 8 = 64$, let's try (7) times using the whole 89 now! →

$$\begin{array}{r} 89 \\ \times\ 7 \\ \hline 623 \end{array}$$

← Wow, worked out perfect! If it doesn't, try one lower or one higher than 7.

Other option -
Trial and Error:

40	40	40
$\times$ 2	$\times$ (3)	$\times$ 4
80	120	160

↑ this is the closest