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Basic Skills and Beyond™

Math
GRADES
2-3

Brainteasers

Applying Math Skills in Innovative Ways

State, National & Provincial CORRELATED Standards

Increase higher-level thinking

Includes:

- matrix logic
- problem solving
- sequencing
- probability
- place value
- end-of-book test
- reproducible certificate

by Jillayne Prince Wallaker

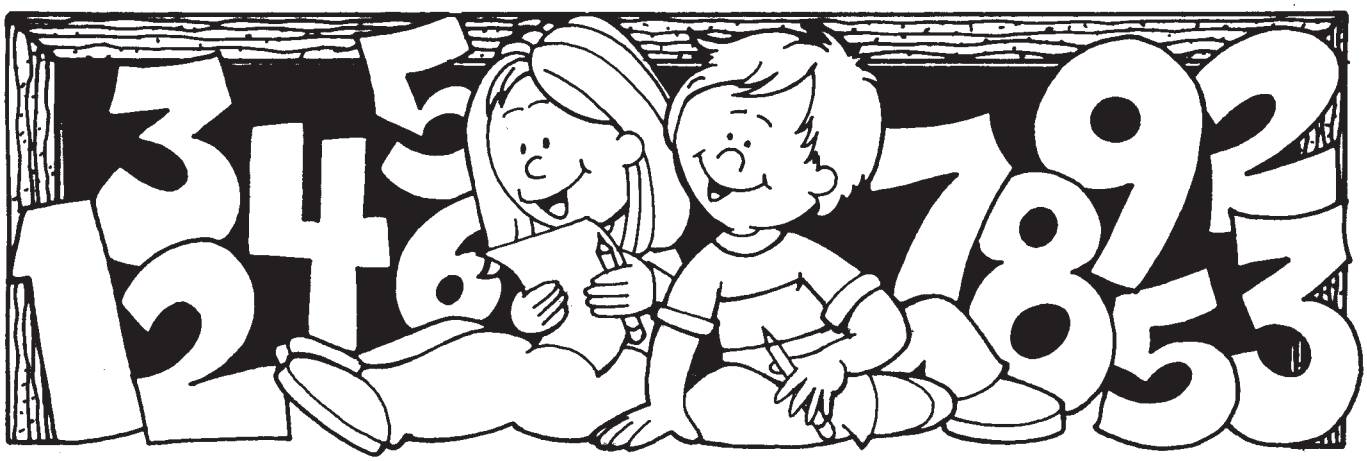
Carson-Dellosa Publishing Company, Inc.

Brainteasers

Grades 2–3

by Jillayne Prince Wallaker

illustrated by Vanessa Booth



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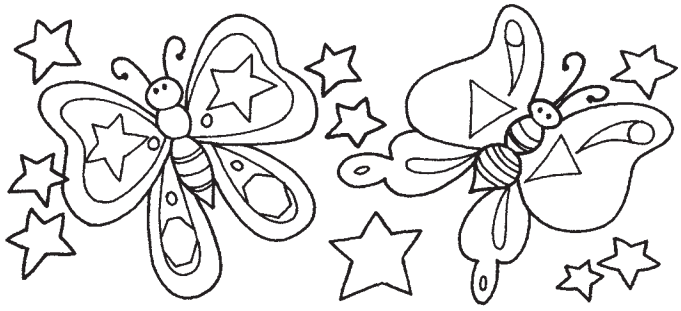

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Introduction

Provide fun math practice that goes beyond the facts! With *Brainteasers*, students use higher-level thinking and processing skills to solve problems. Not only will students be expected to make connections, analyze data, use deductive reasoning, and represent numbers in alternate ways, they will have opportunities to utilize skills that are prerequisites to other learning—skills such as addition, subtraction, multiplication, division, fractions, geometry, measurement, and money. Students are encouraged to apply their understanding of those concepts in a new, unusual, or atypical manner. Many students have memorized and learned to use a skill in one or two given contexts. With *Brainteasers*, students explore their understanding of grade level concepts and picture and apply their skills to different situations.

Remediation and Extension Suggestions and Alternatives

Remediations

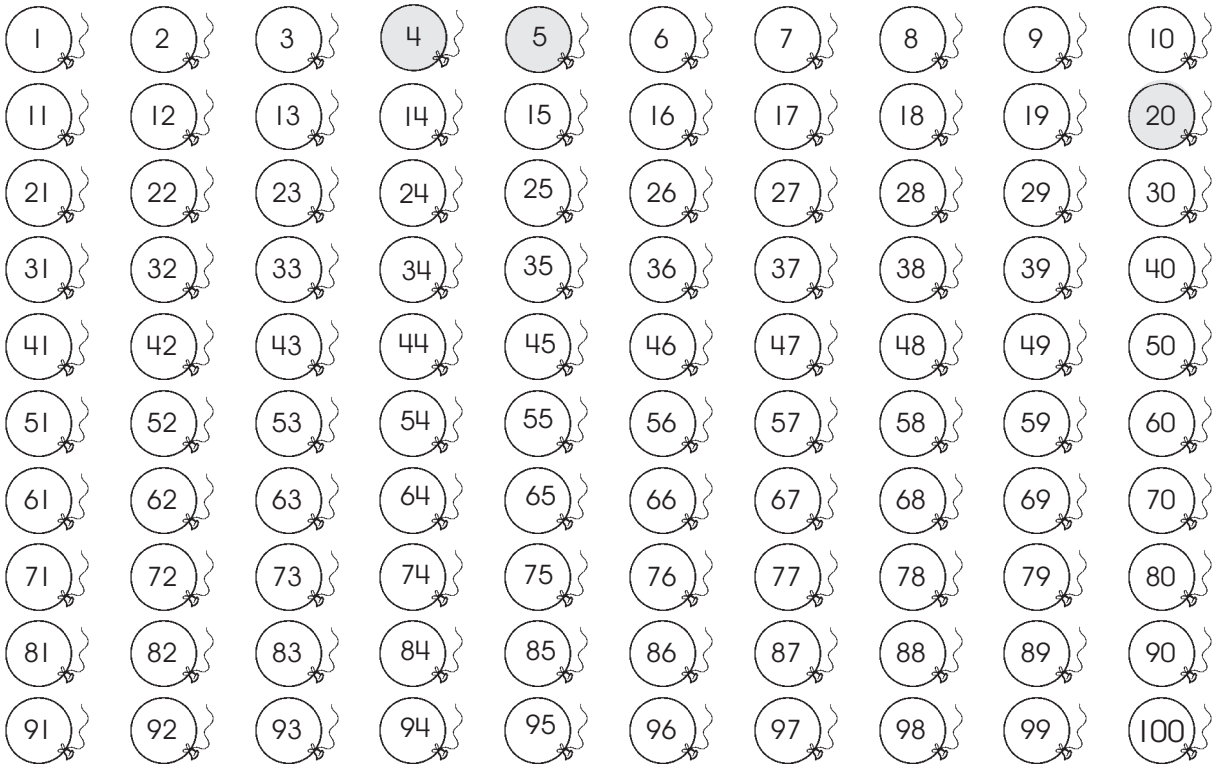
1. Allow students to work with partners or complete the pages on their own and conference with a partner to discuss problems on which they do not agree.
2. Let the student make a picture or sketch of the problem, or act it out.
3. Decrease the number of problems required for completion.
4. Represent the problems in a variety of ways.
5. Have students talk through or write their understanding of the process with partners. Often, verbalizing assists understanding.
6. Many students cannot complete more than one or two higher-level thinking problems at a time. Have the student cut the page up, gluing the parts onto folded paper to make a booklet. Alternatively, assign one or two problems a day until the page is complete.

Extensions

1. Ask students to use the page as a model and write their own problems. The "write your own" activities allow students to demonstrate mastery of the concept, while providing an avenue for self-expression and self-evaluation. Written on index cards with the answers on the back, the problems are great student-made additions to a math center.
2. Have students keep ongoing journals of where they encounter mathematics in real life. A goal of adding one experience a day is reasonable.
3. Ask students to solve problems using a variety of strategies. Have students evaluate which ones work best for them and explain their preferences.
4. If appropriate, encourage students to do more than the minimum requirements on the page. For example, if two additional examples are required, the student would create five. Set up a point system where students can earn bonus points for additional examples.
5. Have students write clear directions to explain the process for solving a problem and then share them with classmates.
6. Direct students to write explanations with proof for the methods used to solve the problems.

Name _____

On Target



Write number sentences using the numbers in the balloons above. Use addition, subtraction, multiplication, and division sentences. Use repeated addition or multi-step problems. If the number is used as any part of the problem, shade it. Continue until each number is used in a problem. Continue on the back of this page. The first problem is done for you. It hits three spots on the target.

4 x 5 = 20			

Circle the correct answer or fill in the blank.

I used addition problems. Yes No I used subtraction problems. Yes No

I used multiplication problems. Yes No I used division problems. Yes No

I used repeated addition or multi-step problems. Yes No

It took me _____ problems to hit every number in the target.

Share your problems with a partner. Check answers for accuracy.

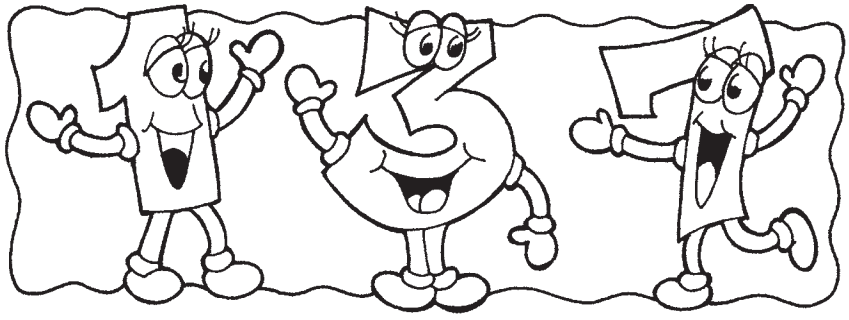
Name _____

Consecutive Number Add Up

Place the numbers in the grid so that the sums of the numbers in each row and column are the same. Write the sum on the line after each row and below each column.

0,1, 2, 3, 4, 5, 6, 7, 8

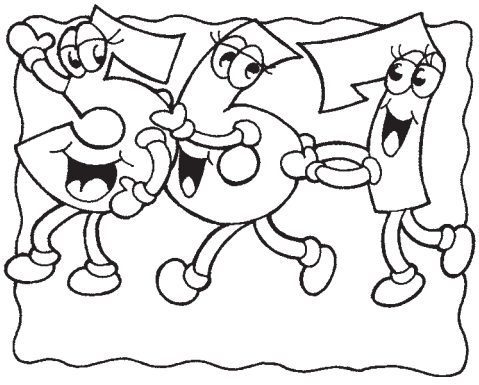
	0	



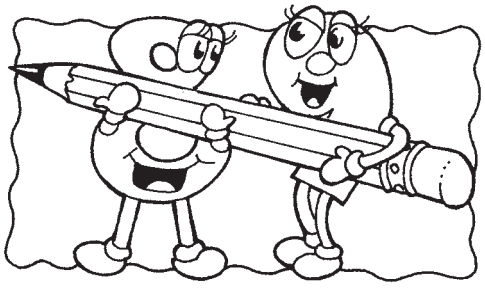
Consecutive numbers are numbers that are in order. Put the following consecutive numbers into the boxes so that each row and column add to the same sum.

4, 5, 6, 7, 8, 9, 10, 11, 12,

10, 11, 12, 13, 14, 15, 16, 17, 18



Take any set of consecutive numbers. Use the patterns found above to place them in the grid. Use a different set of numbers for each grid.



Name _____ logic

Analyzing Consecutive Number Add Up

Look at the consecutive numbers in the grid. Add each row and each column. Write the sum on each line.

17	24	1	8	15	___
23	5	7	14	16	___
4	6	13	20	22	___
10	12	19	21	3	___
11	18	25	2	9	___
___	___	___	___	___	

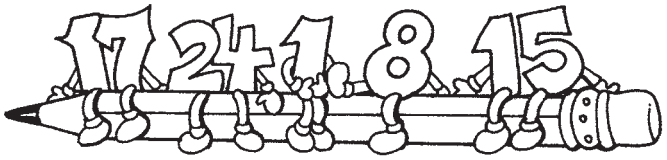
Evaluate how each number moves to the next number. Numbers move 4 different ways. Write those ways here.

A. _____

B. _____

C. _____

D. _____



Start with the 1 in the top row. Explain how each number moves to the next one.

1 to 2: bottom row, 1 right

2 to 3: diagonal right

3 to 4: _____

4 to 5: _____

5 to 6: _____

6 to 7: _____

7 to 8: _____

8 to 9: _____

9 to 10: _____

10 to 11: _____

11 to 12: _____

12 to 13: _____

13 to 14: _____

14 to 15: _____

15 to 16: _____

16 to 17: _____

17 to 18: _____

18 to 19: _____

19 to 20: _____

20 to 21: _____

21 to 22: _____

22 to 23: _____

23 to 24: _____

24 to 25: _____

Look at the data you have collected. What patterns can you see? Explain. _____

_____

On a separate sheet of grid paper, use the patterns to write the numbers 10–35 in a 5 x 5 grid. The sum of each row and each column must be the same. Write the sum on the line after each row and below each column.

Name _____

Fill in the Digits

Add or subtract. Find the missing digits.

A.
$$\begin{array}{r} 3\square \\ +\ 5\ 2 \\ \hline \square\ 6 \end{array}$$

B.
$$\begin{array}{r} \square\ 4 \\ -\ 2\square \\ \hline 5\ 2 \end{array}$$

C.
$$\begin{array}{r} \square\ 4\ \square \\ +\ 5\ 2\ 6 \\ \hline 7\ \square\ 7 \end{array}$$

D.
$$\begin{array}{r} 7\ 8\ \square \\ +\ \square\ 3\ 0 \\ \hline 2\ \square\ 3 \end{array}$$

E.
$$\begin{array}{r} 2\ 7 \\ +\ \square\square \\ \hline 8\ 8 \end{array}$$

F.
$$\begin{array}{r} \square\square \\ -\ 3\ 5 \\ \hline 1\ 6 \end{array}$$

G.
$$\begin{array}{r} \square\ 5\ 4 \\ +\ 3\ 6\ \square \\ \hline 5\ \square\ 1 \end{array}$$

H.
$$\begin{array}{r} \square\ 3\ 6 \\ -\ 2\ 5\ \square \\ \hline 5\ \square\ 8 \end{array}$$

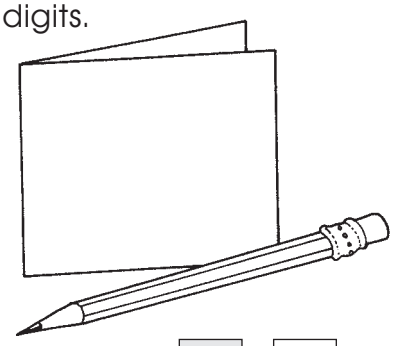
Name _____

- Make your own problems.
- Check for accuracy with a calculator.
- Copy the problems into the boxes below on the right.
- Leave the shaded boxes blank.
- Fold the paper back along the line.
- Trade with a friend.

fold

Name _____

- Add or subtract.
- Find the missing digits.
- When you are done, check your work.



Name _____ addition and subtraction no regrouping, problem solving

Careful Placement

Solve. Write the answers in the puzzle so that the vertical and horizontal numbers interconnect. If an answer does not fit in the puzzle, check your work.

A. 589 − 138

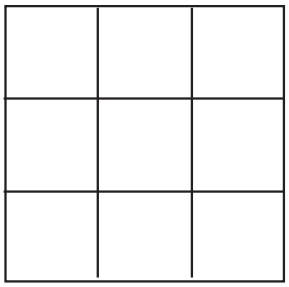
B. 312 + 416

C. 113 + 251

D. 322 + 204

E. 796 − 612

F. 986 − 513



G. 7,896 − 1,615

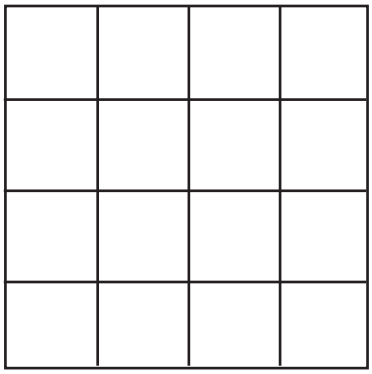
H. 1,214 + 3,512

I. 3,202 + 2,162

J. 3,996 − 2,342

K. 9,859 − 7,116

L. 2,123 + 4,312



M. 6,013 + 2,213

N. 5,978 − 2,553

Make your own.

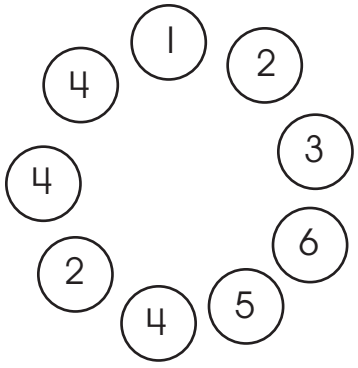
1. Choose the size grid with which you want to work.
2. Fill the grid with numbers.
3. Write a problem for each horizontal answer.
4. Write a problem for each vertical answer.
5. Check your problems with a calculator.
6. Rewrite your problems neatly onto paper.
7. Glue on a piece of grid paper the size of your grid.
8. Write the answers on the back.
9. Trade with a partner and solve.

Name _____

number sense, problem solving

Circle of Numbers

Use each circle of numbers to build 10 number sentences. Numbers may be used more than once, but each number must be used at least once. Numbers must stay in the order they are in. They can be used forwards or backwards, but must remain in the same order in the same problem. Use a variety of functions.



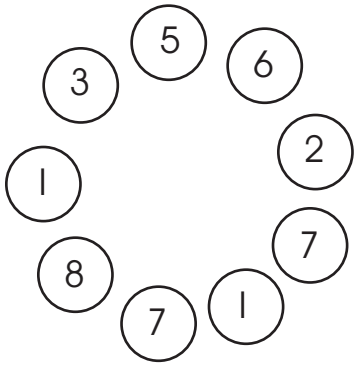
_____ _____

_____ _____

_____ _____

_____ _____

_____ _____



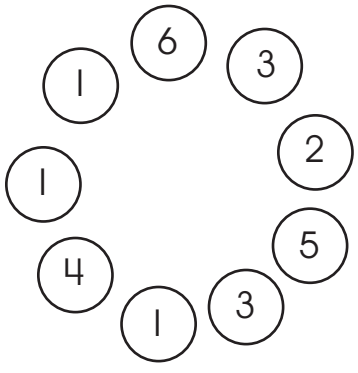
_____ _____

_____ _____

_____ _____

_____ _____

_____ _____



_____ _____

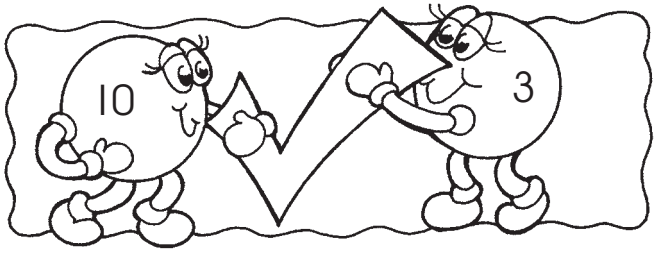
_____ _____

_____ _____

_____ _____

_____ _____

Compare your answers with your partner. Put a check mark next to the number sentences you both have. Star those only you have.



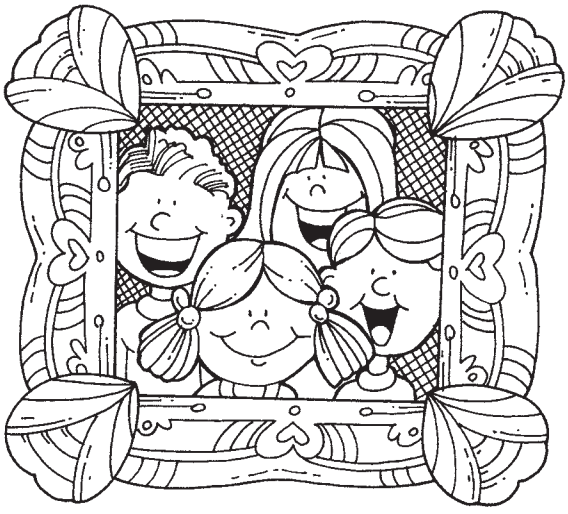
Name _____

The Total

Anna has 2 brothers and 1 sister. Use the matrix and the clues below to figure out the age of each sibling.

- Anna is not the youngest child in the family.
- Ellie's age is not an even number.
- Drew's age is a multiple of three.

	4	8	11	15
Anna				
Drew				
Ellie				
Trevor				



Use the ages of the children shown in the grid. Write a number sentence whose answer is that number. Think of more number sentences. Write each on a new line. If you need more space, use the back of this page.

example: 3

1 + 2 = 3 7 – 4 = 3 1 + 1 + 1 = 3 3 x 1 = 3

Anna's age _____ _____

☐ _____ _____

Drew's age _____ _____

☐ _____ _____

Ellie's age _____ _____

☐ _____ _____

Trevor's age _____ _____

☐ _____ _____

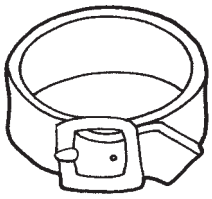
Share your answers with a partner. Put a check next to the number sentences you both have. Star those only you have.

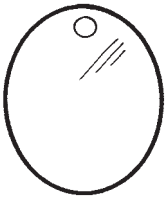
Name _____

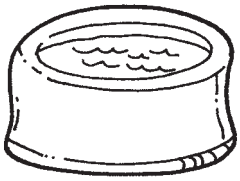
New Pet

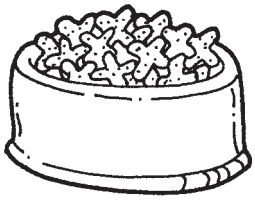
Maddie is buying supplies for her new kitten. She needs one of each of the following: collar, name tag, water bowl, food dish.

Look at Maddie's choices. How many different combinations are possible? Color the drawings. Continue on another paper. Three combinations are done for you.


red


oval


yellow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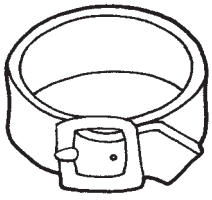
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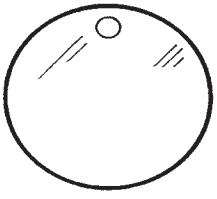
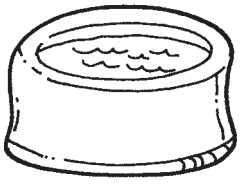
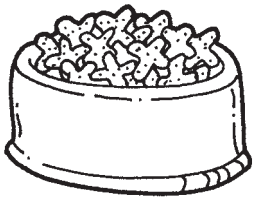
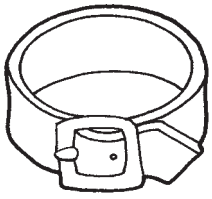
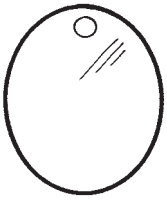
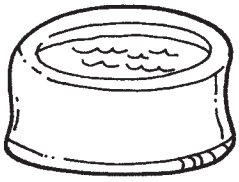

circle


green


orange


red


oval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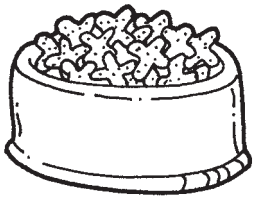
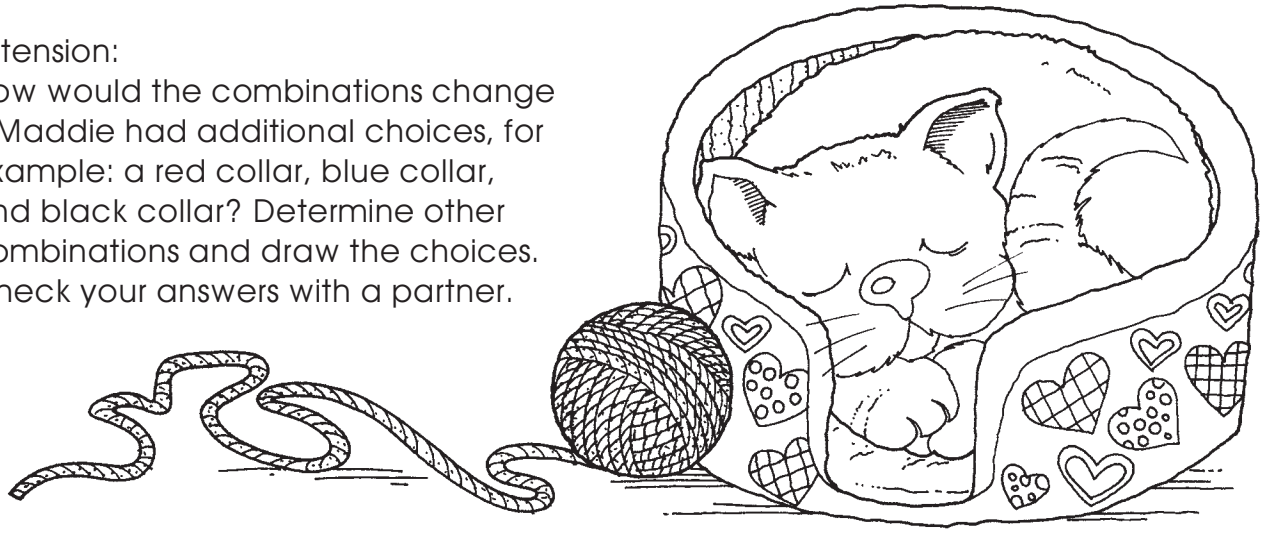

orange

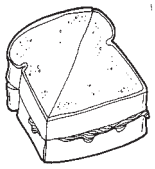
Extension:
How would the combinations change if Maddie had additional choices, for example: a red collar, blue collar, and black collar? Determine other combinations and draw the choices. Check your answers with a partner.

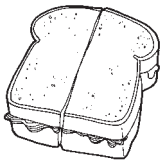


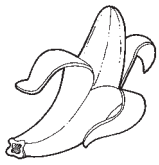
Name _____

What's for Lunch?

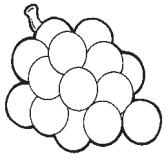
Zoe is making her lunch. She needs a sandwich, fruit, and drink. Zoe wants to know her possible lunch combinations. Look at the pictures to see her choices.


sandwich A
peanut butter


sandwich B
jelly


fruit A
banana


fruit B
apple


fruit C
grapes

drink A
milk


drink B
orange juice

How many different combinations does Zoe have with her lunch choices? Using 1 item at a time from each category, draw or write all possible combinations.

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Name _____

Snacks

Kalio and 3 friends each brought a healthy snack to school. Use the information and the matrix to find out who brought each snack.

- Mafra brought a yellow snack that grew on a tree.
- Nefty ate a fruit, but it wasn't an apple.
- The edible part of Kalio's vegetable is not found underground.

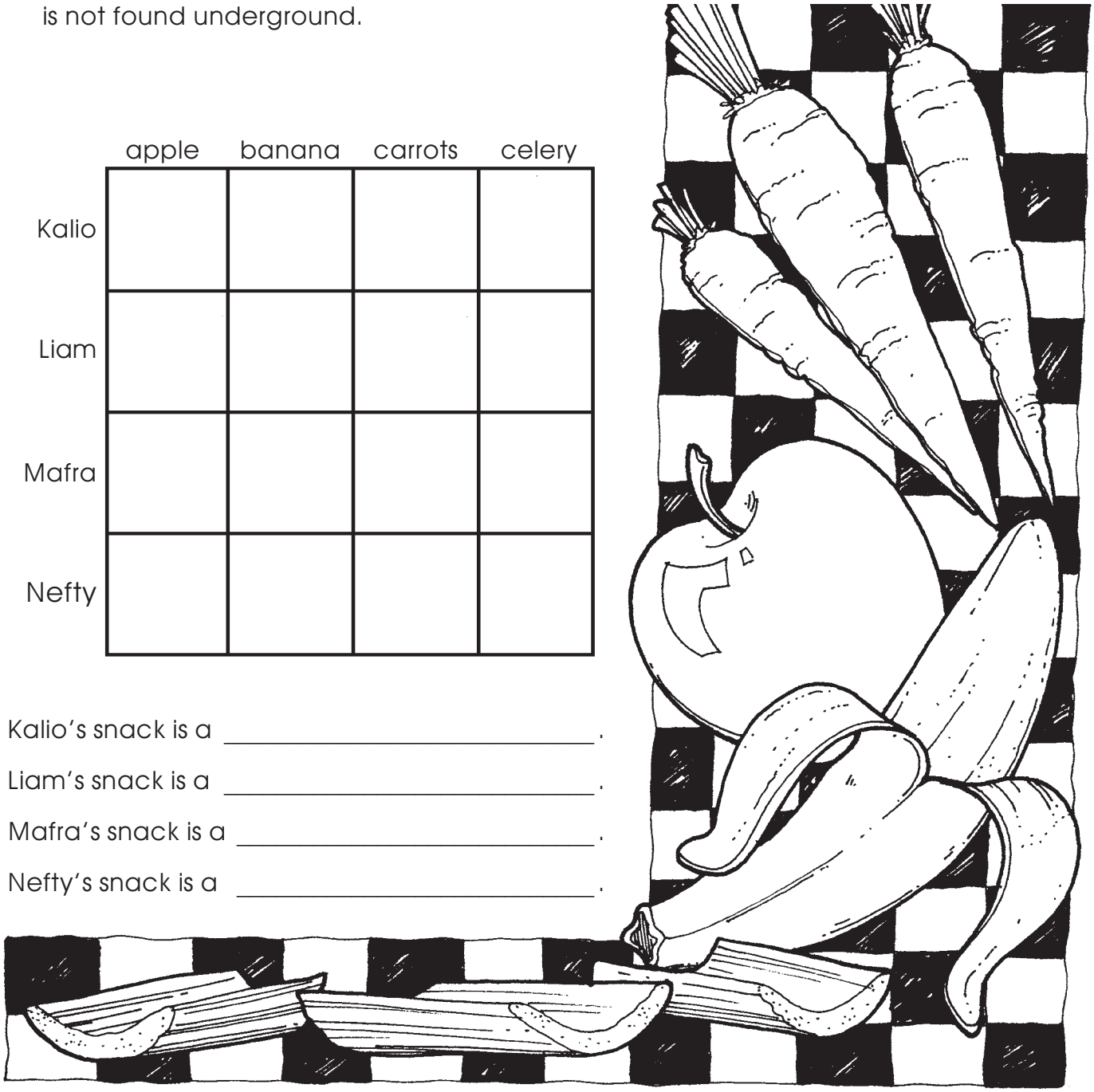
	apple	banana	carrots	celery
Kalio				
Liam				
Mafra				
Nefty				

Kalio's snack is a _____.

Liam's snack is a _____.

Mafra's snack is a _____.

Nefty's snack is a _____.



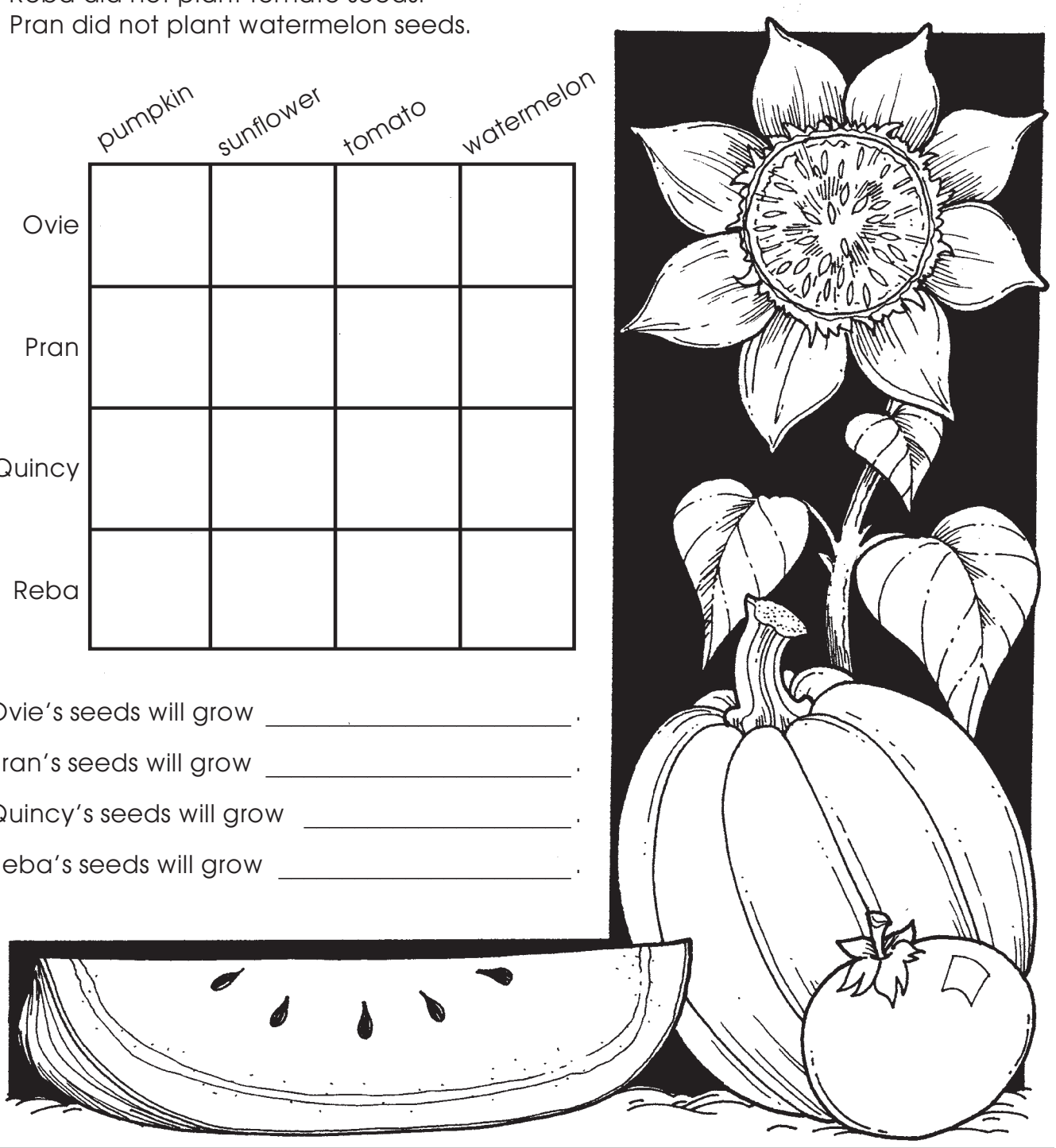
Name _____

Seeds

Ovie and 3 friends each planted different seeds for their plant unit in science. Use the information and the matrix to find out who planted each seed.

- Pran's seeds will grow into a vine plant.
- Quincy's seeds will produce the tallest plant.
- Reba did not plant tomato seeds.
- Pran did not plant watermelon seeds.

	pumpkin	sunflower	tomato	watermelon
Ovie				
Pran				
Quincy				
Reba				



Ovie's seeds will grow _____.

Pran's seeds will grow _____.

Quincy's seeds will grow _____.

Reba's seeds will grow _____.

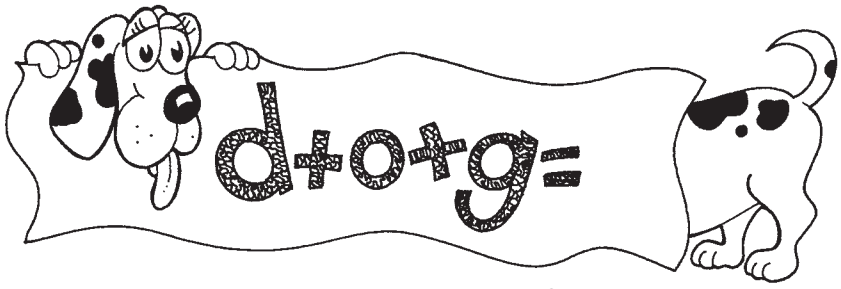
Name _____ addition with multiple addends, problem solving

Adding Words

Use the table. Give each letter in the word a number value. Add the numbers to find the total value of the word.

Value Table

1	A, F, K, P, U, Z
2	B, G, L, Q, V
3	C, H, M, R, W
4	D, I, N, S, X
5	E, J, O, T, Y



example: d + o + g = (4 + 5 + 2 = 11)

Find the value of these words.

1. sum _____
2. total _____
3. value _____
4. digit _____

Read and follow the directions.

5. Write 4 words with a value of 10. _____ _____ _____ _____
6. Write 4 words with a value less than 7. _____ _____ _____ _____
7. Write 4 words with a value greater than 20. _____ _____ _____ _____
8. Compare your words with those of a partner. What is the word with the largest value? _____
9. Write a sentence. Find the total value of the words.

   _____

10. Write a sentence with a value greater than 50.

    _____

Compare your sentence with the sentence of a partner.

11. Who has the sentence with the greatest value? _____
12. Does the person with the most words have to have the greatest sum? _____ Explain. _____

Name _____

Riddles

Read carefully to solve each number riddle. Write your answer in the box.

1. Subtract 9 from me. Subtract 8, then add 2. You get 3. What number am I? ☐
2. Add 1 to me. Subtract six, then add 2. You get 8. What number am I? ☐
3. Add 4 to me. Then add 6 and subtract 9. You get 7. What number am I? ☐
4. Add 3 to me, subtract 8, then add 1. Subtract 5 more and you get 5.

   What number am I? ☐
5. Add 7 to me, subtract 3, add 12, then subtract 4. You get 20.

   What number am I? ☐
6. Subtract 9 from me before adding 5, then double the answer. You get 12.

   What number am I? ☐
7. Add 2 to me, then add 4 more. Subtract 7. Add 1, then subtract 5. You get 4.

   What number am I? ☐
8. Subtract 1 from me. Add 9, then subtract 5. Add 9 more. You get 24.

   What number am I? ☐
9. If you subtract 6 from me, then add 4 and multiply by 2, you get 14.

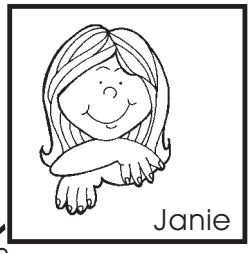
   What number am I? ☐
10. If you divide me into 8 equal parts, you get 3. What number am I? ☐
11. If you multiply me by 5 and add 6, you get 21. What number am I? ☐
12. If you divide 14 by me and add 3, you get 5. What number am I? ☐

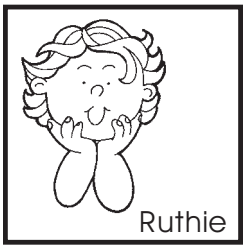
Think of more riddles. Write them on the back of this page. Start with a number. Add or subtract numbers. Keep track of each answer and add or subtract again. When you have done this three or more times, write "You get ____. What number am I?" Check your problems for accuracy. Copy the riddle onto a card. Write the answer on the back. Share it with a partner.

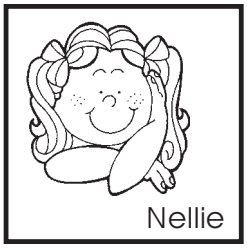
Order Up

Cut out the object cards. Read the clues. Place the cards in order. The first object is always on the left. Fold a piece of paper to make a booklet with 4 pages. Glue the clue and object cards into the booklet.

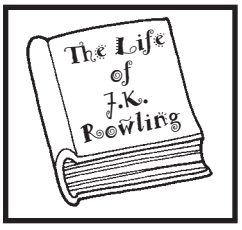
1. Willie has 3 sisters. Nellie is not the youngest. Ruthie is older than both Nellie and Janie. The youngest sister is on the left.

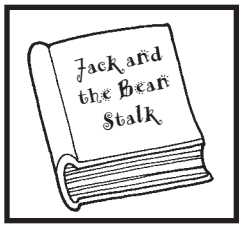


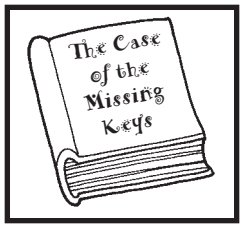


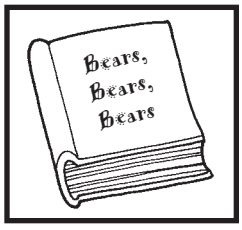


2. Ellis read 4 books. He read the biography before the fairy tale or animal book. The animal book was not read last. He read the mystery before the biography.

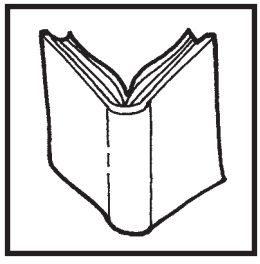


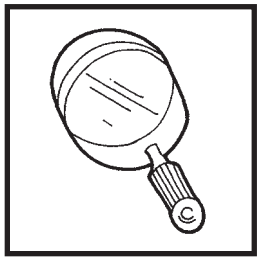


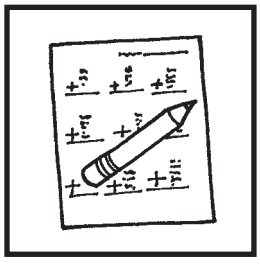


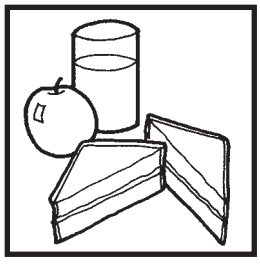


3. Order the things Mikaela did in the morning. She read a book before science. Lunch was eaten after she finished all of her work. She worked on math first thing.

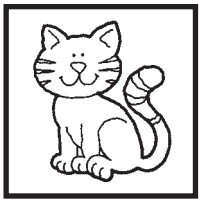


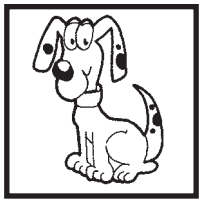


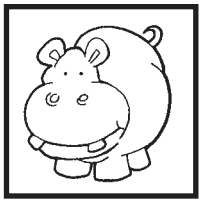


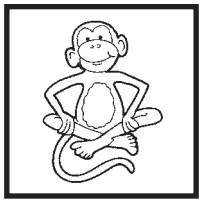


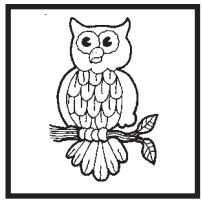
4. Jade has 5 stuffed animals across her bed. The monkey is before the owl and hippo. The bird is in the center. The dog is between the hippo and owl. The cat is not first.









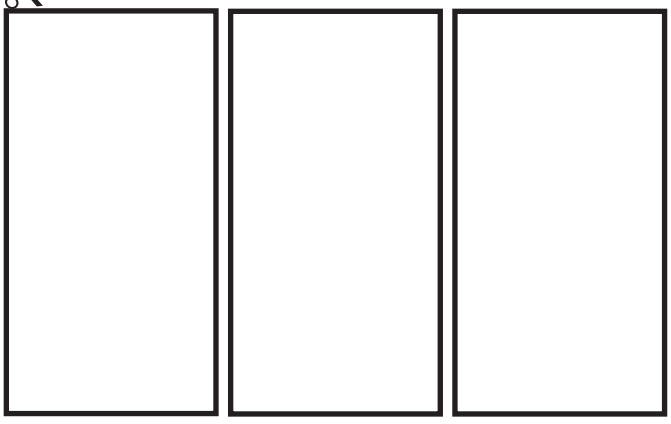


Name _____

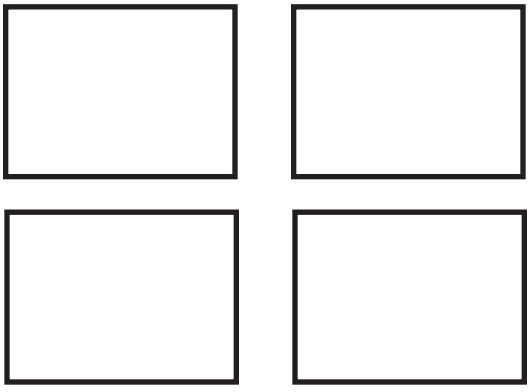
Order it Up Again

Draw the objects and write their names in the boxes to make object cards. Cut out the cards. Read the clues. Place the cards in order. The first object is always on the left. Fold a piece of paper to make a booklet with 4 pages. Glue the clue and object cards into the booklet.

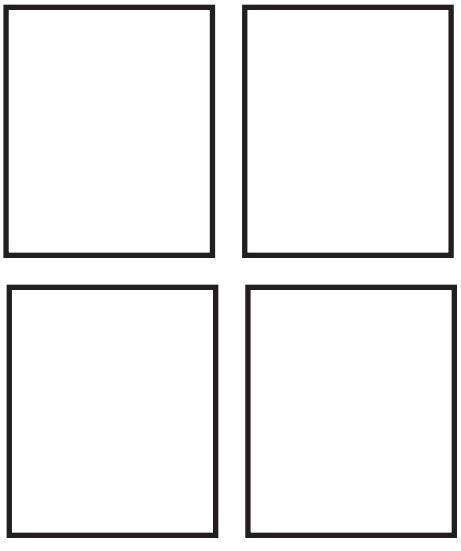
1. Cleo has 3 beads on her bracelet. The middle bead is not the green one. The yellow bead follows the blue and green ones.



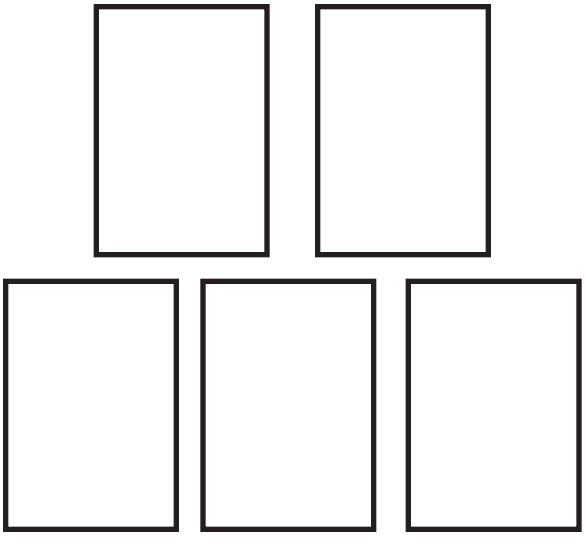
2. Dillon wrote a 4-digit number. The first and third digits are the same. If you add the first and third digits together, you get the last digit. The second digit is the smallest digit. No digit is odd. No digit is 0.



3. Pete ordered the items in his pocket. The key is before the dime. The rubber band is between the key and gum. The dime is third.



4. Uriel lined up his 5 paint pots. Orange and green touch the primary colors from which they are made. Red comes before blue.



Name _____

Ages

Use the clues to find each person's age.

1. Ellie was asked how old she is. She said, "In 2 years I will be twice as old as I was 4 years ago."

   How old is Ellie? _____

2. Mellie has an older brother, Esi, and a younger sister, Kally. Mellie's age is halfway between the other two. Her brother is half as old as 3 times her age. Esi is 3 times older than their youngest sister.

   How old is Mellie? _____
   How old is Esi? _____
   How old is Kally? _____

3. Double Jose's age, then multiply it by Jasmine's age to get Abi's age. Abi's age in years is the same as Jose's age in months.

   Jose is _____ .
   Abi is _____ .
   Jasmine is _____ .

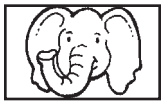
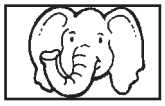
4. If Fiona's age is doubled, you get Obed's age. Sam's age added to Nina's age is equal to Fiona's age. If you multiply Sam and Nina's ages, you get Obed's age. Nina is not the youngest.

   How old is Fiona? _____
   How old is Nina? _____
   How old is Obed? _____
   How old is Sam? _____

Name _____

Determining Certainty

How likely is each event? Write **certain**, **impossible**, or **maybe**.

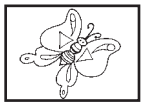
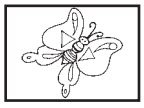



1. Last pick monkey _____
2. First pick giraffe _____
3. First pick elephant, lion, or giraffe _____
4. Elephants out, next pick lion _____
5. First pick lion, next pick elephant _____
6. One giraffe out, next pick giraffe _____
7. One giraffe and one lion out, next pick elephant _____





8. First pick lizard _____
9. Three fish out, next pick bird _____
10. Two fish out, next pick fish _____
11. First two picks birds, last pick fish _____
12. Two fish and two birds out, next pick fish _____
13. One fish out, next pick snail _____

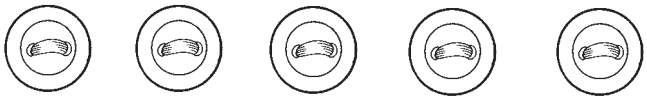



14. Last pick spider _____
15. Third pick ant _____
16. First pick fish _____
17. Two ants out, next pick ant _____
18. One spider, two ants, and one butterfly out, next pick butterfly _____
19. Five butterflies out, next pick spider _____
20. All butterflies and an ant out, next pick ant _____

Name _____

Is It Certain?

How likely is each event? Write **certain**, **impossible**, or **maybe**.

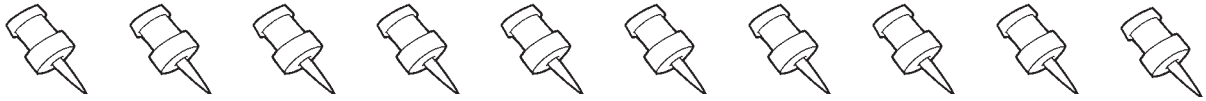


Color 3 yellow. Color 1 green. Color 1 blue.

1. First pick red _____
2. First pick yellow _____
3. One green out, next pick green _____
4. One green and one blue out, next pick yellow _____
5. Three yellow out, next pick blue _____

Color 2 red. Color 4 black. Color 3 white. Color 1 brown.

6. First pick white _____
7. First pick blue _____
8. One brown out, next pick brown _____
9. Two black out, next pick red _____
10. Three white and four black out, next pick white _____

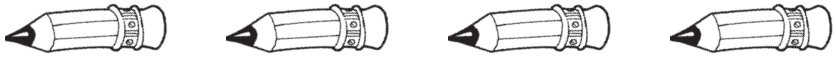


Color 6 yellow. Color 3 orange. Color 1 green.

11. Last pick yellow _____
12. Third pick orange _____
13. First pick blue _____
14. Six yellow out, next pick orange _____
15. One green and three orange out, next pick yellow _____

Fill in the directions for coloring the pencils. Write three possible events related to the pencils. Answer each with **certain**, **maybe**, or **impossible**. Fold the answers back. Trade with a friend.

fold



Colors of pencils : _____

1. _____
2. _____
3. _____

Answers:

_____

_____

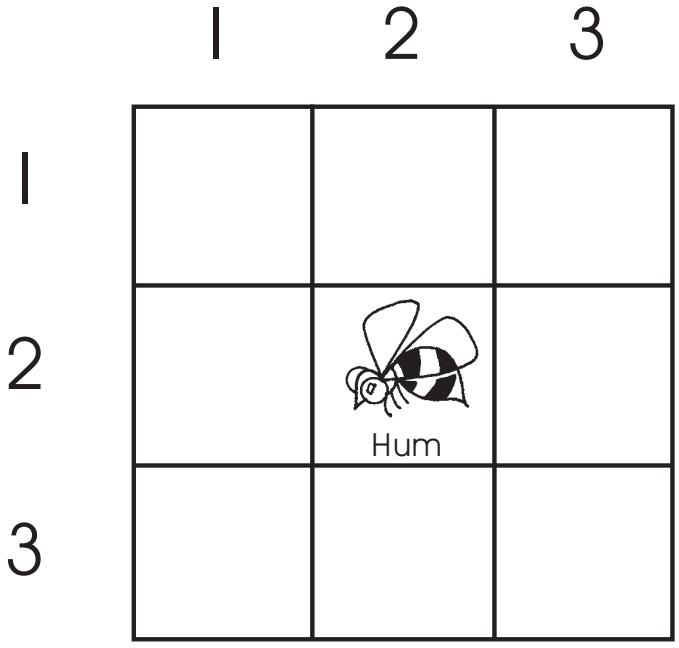
_____

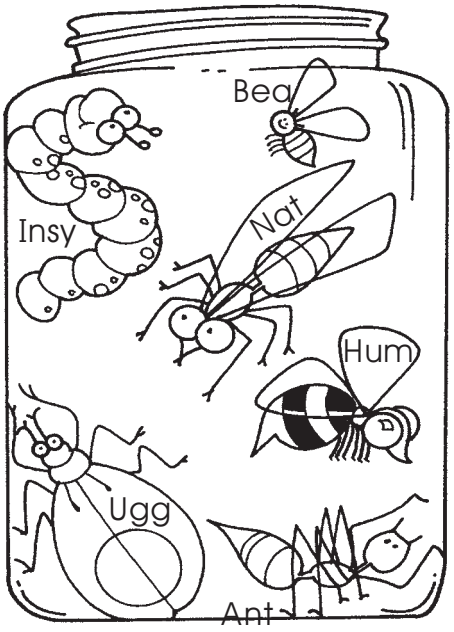
Name _____

Hide and Seek

Use the clues to find out where each insect friend is hiding in the grid.
Each bug is in a different box. Glue the insect cutout in the spot.

row: ☐☐☐ column: ☐☐☐





Hum: I am in the center square.

Ugg: I am in the same row as Hum and the same column as Insy.

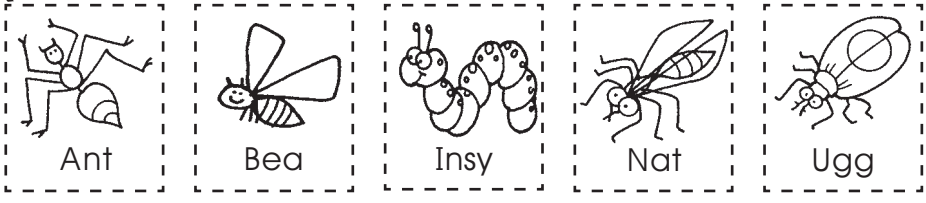
Bea: I am the only one in my row. Ant shares my column.

Nat: I am in row 3. I share my column with Hum.

Ant: I share my row with Insy.

Insy: I share my row with Nat. I am in the column after Hum.

Cut out the insect friends. Use them to help you solve the puzzle.



Name _____

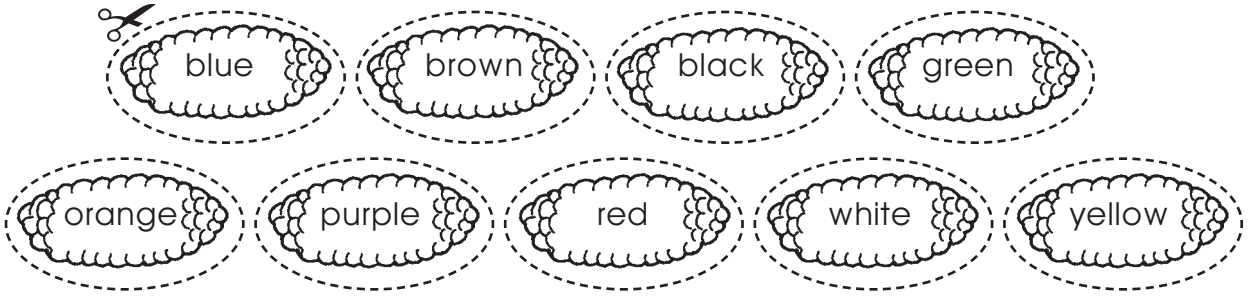
Corn Patch

Read the clues. Glue the corncobs in the correct boxes.

	1	2	3
1			
2			
3			

- The yellow corn is not in the middle column.
- The white corn is not in the middle row.
- The yellow and white corn are in the same column.
- The red corn is in the last row.
- The purple corn is top right corncob.
- The blue corn is in the same row as the red and brown corn and in the same column as the purple corn.
- The red corn is in the same column as the green corn.
- The black corn is not in the same row as the yellow corn.

Color and cut out the corncobs. Use them to help you solve the puzzle.



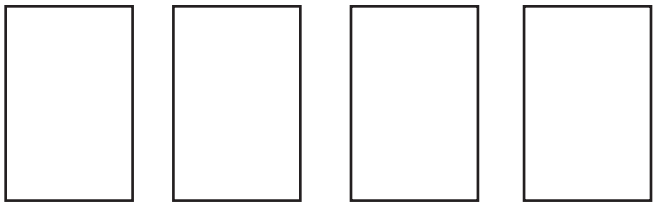
Name _____

More Ordering

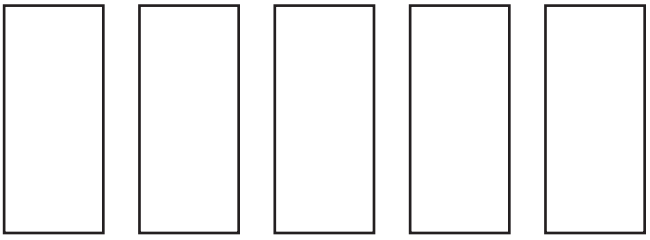
Read the clue. Draw the objects in the correct order.
Write their names below the pictures.

1. Krystin's town had 3 days of very different weather. It snowed before it rained. The sun shone all day the middle day.

2. Jana has 4 crayons on her desk. The red crayon does not touch the green one. The blue crayon is before the yellow one. The yellow one is last. The green crayon is behind the blue one.



3. Julio has a row of stickers on his binder. The smile sticker does not touch the clover or bug. The dog and bug stickers touch the heart. The heart sticker is in the middle. The clover is in front of the dog.



Write your own. Follow the directions. Use another sheet of paper.

1. Choose 5 objects. Write them in order:
2. Write 2 clues about the order of the objects. Only tell exactly where 1 object is.
3. Put as many objects as you can in order using these 2 clues. Add 1 clue at a time until you can put all the objects in the correct order. Try to use ordinal numbers and words like "before," "after," and "next to."
4. Check for accuracy. Rewrite your clues neatly on a card.
5. Put the clue card and objects together. Trade with a friend.

Name _____

Pick Apart

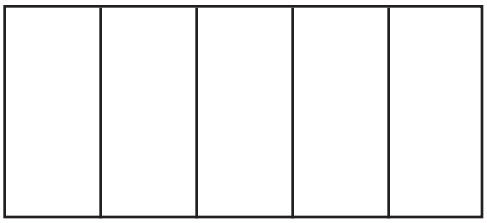
Read the clues. Color the figures to match.

1. red + green = $\frac{2}{5}$

   yellow + red = $\frac{2}{5}$

   green + blue = $\frac{3}{5}$

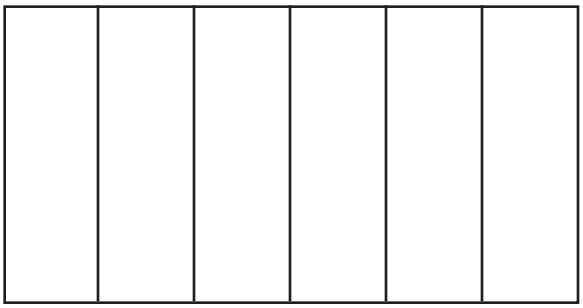
   red = $\frac{0}{5}$



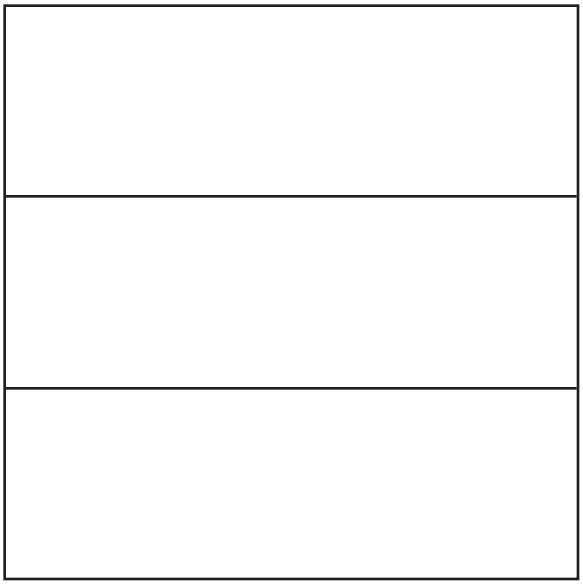
2. green + brown = $\frac{4}{6}$

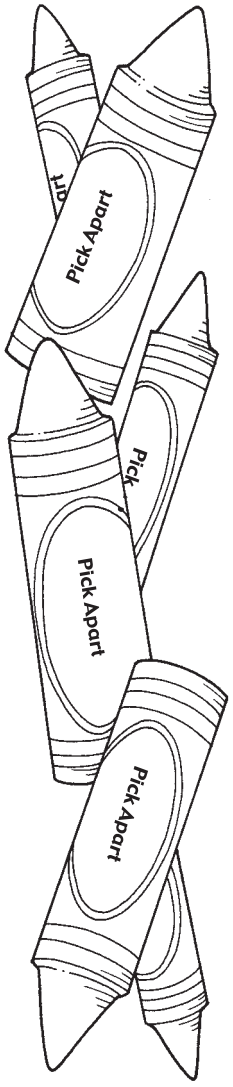
   yellow + brown = $\frac{3}{6}$

   yellow + brown = green



3. red = blue + blue



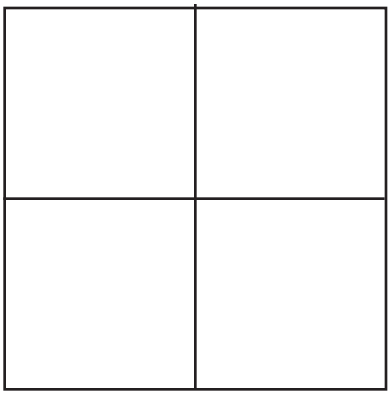


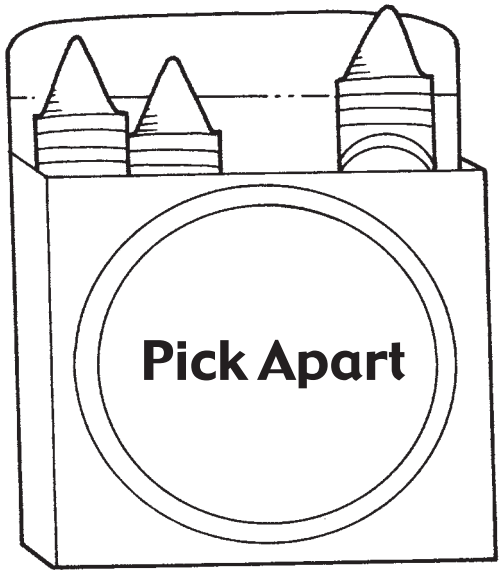
Pick Apart Again

Read the clues. Color the figures to match.

1. white + red = $\frac{3}{4}$

   black + red = $\frac{2}{4}$

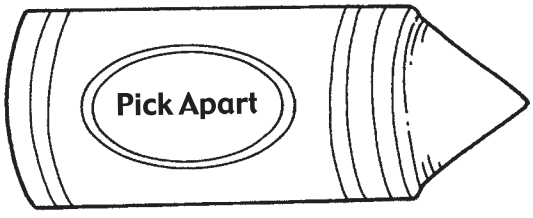


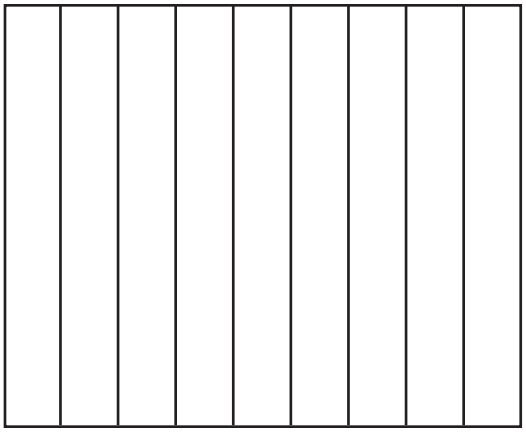


2. yellow + brown + green = $\frac{8}{9}$

   yellow + brown = green

   yellow = purple



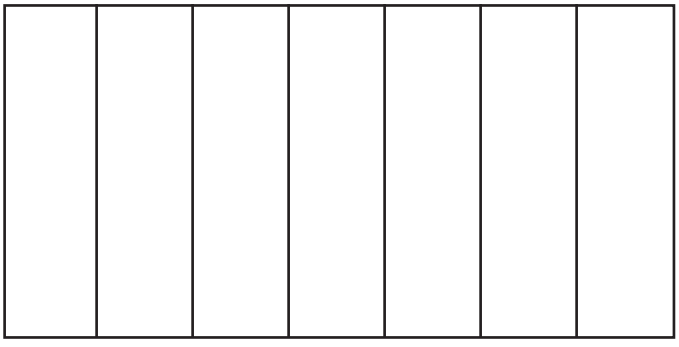


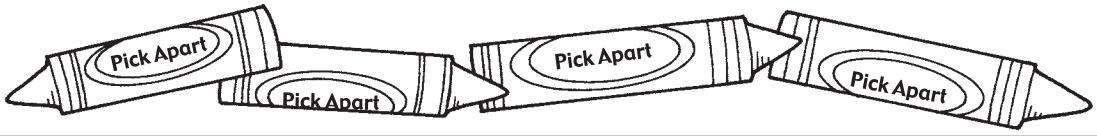
3. orange = $\frac{2}{7}$

   orange + green + blue = $\frac{4}{7}$

   green = blue

   purple + green = $\frac{4}{7}$





Just That Part

Read the clues. Color the figures.
Write the fractional part of each figure.

1. The white portion of the figure is the largest.

   If you double the red part, it would be less than the white part.

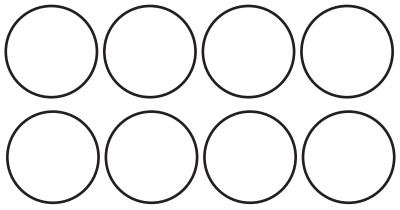
   The white part is less than the black part doubled.

   No part is equal to zero.

2. The green part is larger than the white part.

   The white and the green parts are equal to the brown part.

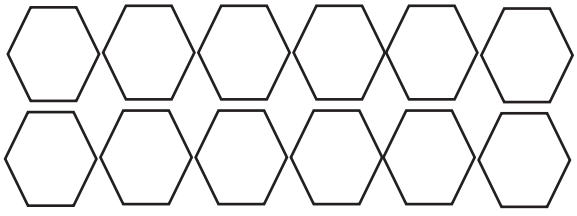
   If the white part doubled in size, it would still be smaller than either the green or brown part.



3. There are twice as many yellow as blue parts.

   There are half as many white as blue parts.

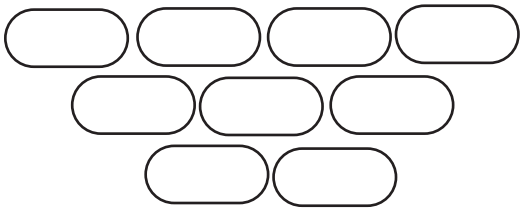
   The red parts are equal to the yellow and white parts.



4. The purple part is equal to the blue part.

   There are fewer orange parts than green parts.

   The blue part is the same size as the green and orange parts together.

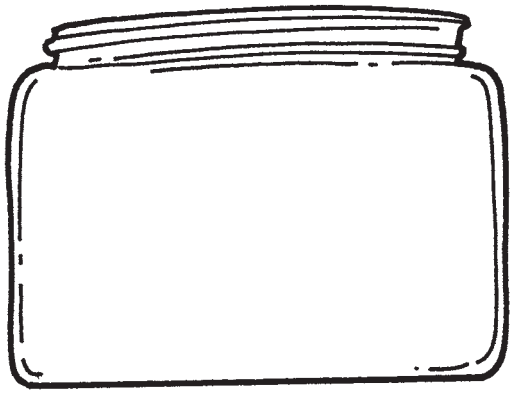


Name _____

How Probable?

How likely is each event? Draw and color the objects.
Circle **impossible**, **not likely**, **likely**, or **certain**.

In a jar are 10 packages of chocolate chip cookies and 3 packages of oatmeal cookies. A package of cookies is chosen from the jar.



What is the probability that it is . . .

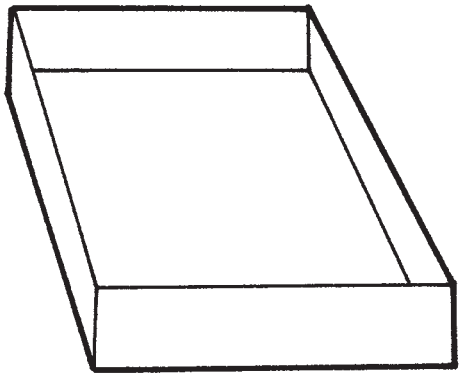
1. a bag of chocolate chip cookies? impossible not likely likely certain
2. a bag of cookies? impossible not likely likely certain
3. a bag of oatmeal cookies? impossible not likely likely certain
4. a bag of peanut butter cookies? impossible not likely likely certain
5. Which kind of cookies is most likely to be chosen? _____

   Why? _____

A box holds 16 rubber worms in the following colors:

- 9 red
- 5 orange
- 2 yellow

One worm is taken from the box.



What is the probability that it is . . .

6. a yellow worm? impossible not likely likely certain
7. a red or orange worm? impossible not likely likely certain
8. a blue or green worm? impossible not likely likely certain
9. a red, orange, or yellow worm? impossible not likely likely certain
10. a red snake? impossible not likely likely certain
11. Which worm is least likely to be chosen? _____ Why? _____

_____

Name _____

What Can You Do with These Digits?

Use the digits to write a number. Hint: write each digit on a separate card. Use the cards to arrange the digits.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

A. The largest 3-digit number ___ ___ ___

B. The smallest 6-digit odd number ___ ___ ___ ___ ___ ___

C. The smallest 5-digit number ___ ___ ___ ___ ___

D. The greatest 3-digit even number ___ ___ ___

Arrange the digits to make the largest and smallest differences. The first set of digits makes the **minuend**. The second set of digits makes the **subtrahend**. Write each problem and solve.

E. 4, 2, 7 / 8, 1, 2

Largest difference

□□□
− □□□
□□□

Smallest difference

□□□
− □□□
□□

F. 5, 9, 3 / 6, 4, 8

Largest difference

□□□
− □□□
□□□

Smallest difference

□□□
− □□□
□□

Compare your answers with your partner. Who has the larger difference? Who has the smaller difference? Star the best answers.

Name _____ logic. problem solving, place value, and subtraction

More with These Digits

Use the digits to write a number.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

A. The number that is closest to but not more than 7,000 ____ ____ ____ ____

B. The smallest 3-digit number with all odd digits ____ ____ ____

C. The closest number to 10,000 ____ ____ ____ ____ ____

D. The greatest 4-digit number with all even digits ____ ____ ____ ____

Arrange the digits to make the largest and smallest differences. The first set of digits makes the **minuend**. The second set of digits makes the **subtrahend**. Write each problem and solve.

E. 2,8,5

4,9,8

Largest difference

□□□
− □□□
□□□

Smallest difference

□□□
− □□□
□□

F. 3,7,1

7,6,4

Largest difference

□□□
− □□□
□□□

Smallest difference

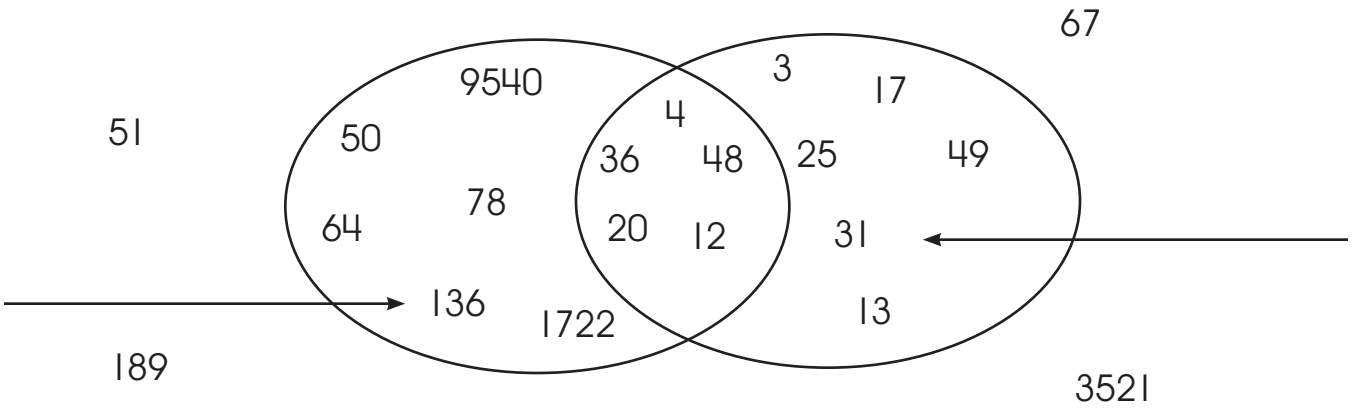
□□□
− □□□
□□

Compare your answers with your partner. Who has the larger difference? Who has the smaller difference? Star the best answers.

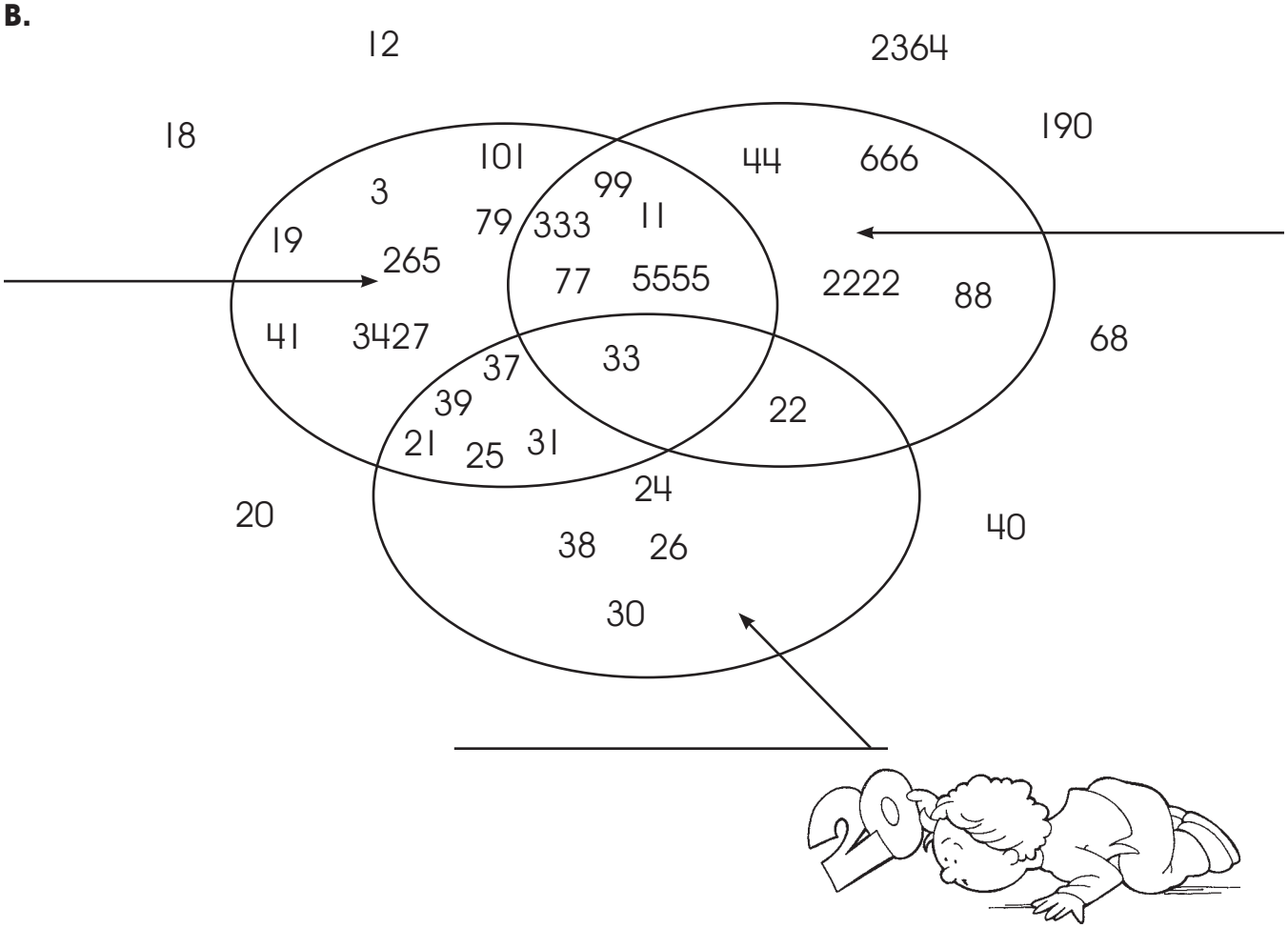
Find the Numbers

Look at each Venn diagram. Add the missing labels.

A.



B.



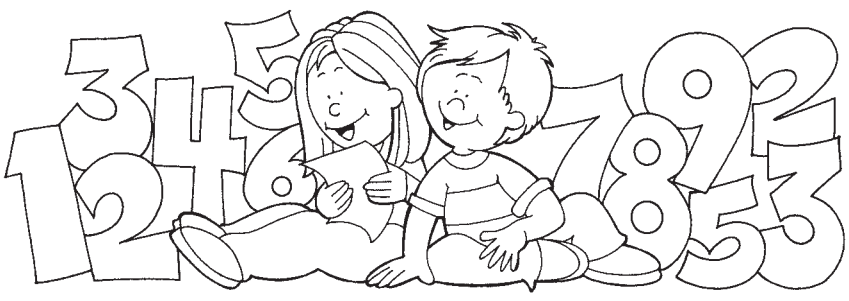
Name _____

Place Value Criteria

Write 4 numbers that fit each description.

1. Write a 3-digit even number greater than 553 whose hundreds digit is less than its ones digit. _____ _____ _____ _____
2. Write a 2-digit number with a number less than 5 in the tens place. The sum of the digits is greater than 10. _____ _____ _____ _____
3. Write a 2-digit odd number whose digits have a sum of 9. _____ _____ _____ _____
4. Write an odd number between 250 and 350. Each digit is different and the tens digit is greater than the ones digit. _____ _____ _____ _____
5. Write a 3-digit odd number with a digit greater than 6 in the ones place. The difference between the tens digit and the hundreds digit is 4. _____ _____ _____ _____
6. Write an even number less than 921 with a 9 in the hundreds place. The tens digit is less than the ones digit. _____ _____ _____ _____
7. Write a 3-digit number whose digits have a sum of 14. All digits are either odd or even. _____ _____ _____ _____
8. Write a 4-digit odd number whose digits become smaller from ones to thousands digit. _____ _____ _____ _____
9. Write a 4-digit even number whose digits have a sum of 10. _____ _____ _____ _____

Compare your numbers with those of your partner. Put a check mark next to the ones you both have. Star the ones only you have.



Name _____

Place Value Riddles

Read each riddle and look at the numbers given. List 2 possible answers on the line. Write 2 more possible numbers. Then list each answer that is not possible and explain why not.

1. Zimia said, "I have a 5-digit number with all even digits."

   6,428 26,942 22,680 46,286

   Possible: _____ _____ More possible: _____ _____

   Impossible: _____ because _____.

   Impossible: _____ because _____.

2. Yurelli said, "I have a 4-digit even number whose tens digit is less than the hundreds digit and the ones digit."

   8,412 9,635 2,430 1,758

   Possible: _____ _____ More possible: _____ _____

   Impossible: _____ because _____.

   Impossible: _____ because _____.

3. Victor said, "I have a 3-digit odd number whose digits add to 10."

   811 415 352 531

   Possible: _____ _____ More possible: _____ _____

   Impossible: _____ because _____.

   Impossible: _____ because _____.

4. Wanda said, "I have a 2-digit even number. The sum of the digits is greater than 11."

   67 92 76 48

   Possible: _____ _____ More possible: _____ _____

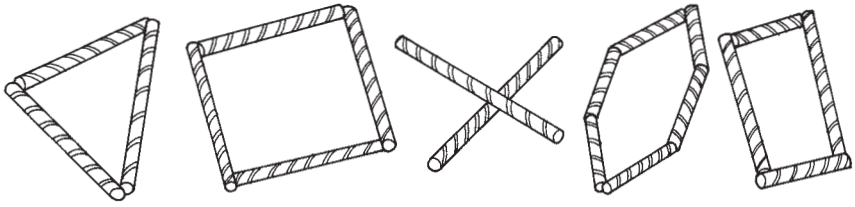
   Impossible: _____ because _____.

   Impossible: _____ because _____.

Name _____

Shapes From Straws

Read the clues. Draw the shapes and label your answers.



1. Willie used 26 straight sides to make 4 shapes. Each shape has 1 more side than the last one. Draw the shapes. How many sides on each shape?

2. Mikaela has 4 shapes that have a total of 18 sides. Three shapes have the same number of sides. The fourth shape has enough sides to equal the sum of the other 3 shapes' sides. How many sides on each shape?

3. Jade used 30 straws to make 4 shapes. Shape A and Shape B together have the same number of sides as Shape C. Shape D has half the number of shape C. Shape B has half the number of sides as shape A.

4. Leon made 5 shapes from 20 sides. Three shapes have the same number of sides. The sum of straws used to make the other 2 shapes is the same as the straws used to make 2 of the equal shapes.

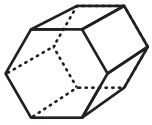
Name _____

Pick the Solid

Read the riddles. Write the name of the solid described on the line.

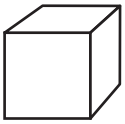
corner = point where edges meet
edge = line segment where two faces meet
face = flat surface of a solid figure


hemisphere

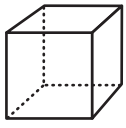

hexagonal prism

1. I have 5 corners and the same number of faces.
   My edges number more.
   Four of my faces are related.
   What solid am I? _____

   Prove the riddle: _____

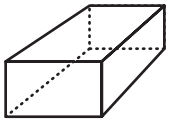

cube

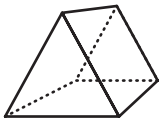

cylinder


square prism

2. A line through my center from side to side is equal everywhere.
   I have the same number of faces, corners, and edges.
   What solid am I? _____

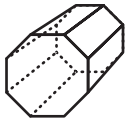
   Prove the riddle: _____

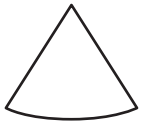

rectangular prism

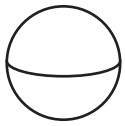

triangular prism

3. I have 6 corners.
   I have fewer faces.
   My edges number more than the corners.
   What solid am I? _____

   Prove the riddle: _____

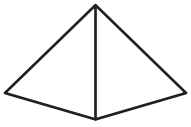

octagonal prism


cone


sphere

4. I have 8 rectangular faces.
   I have twice as many corners.
   I have 3 times as many edges.
   My 2 other faces help name me.
   What solid am I? _____

   Prove the riddle: _____

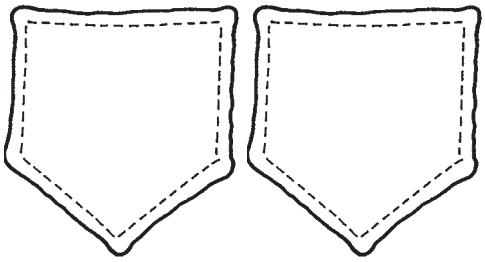

square pyramid

Name _____

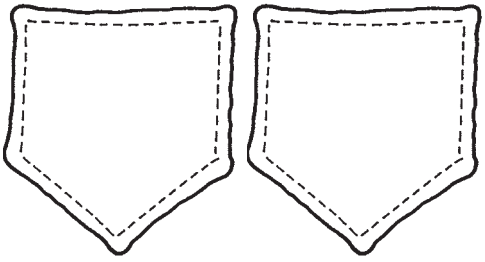
Fill the Pockets

Look at the given amount. Show 2 ways to make the amount using coins.
Draw or write the name of each coin.

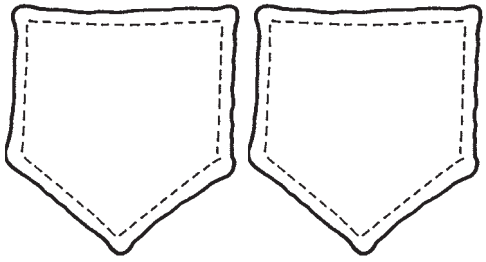
1. 19¢



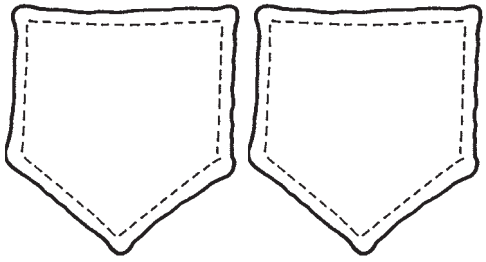
2. 63¢



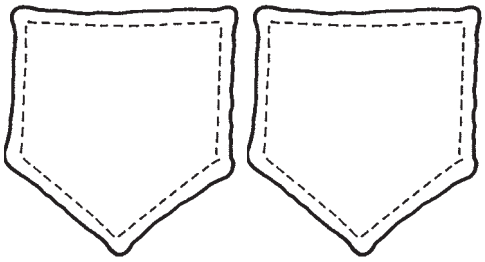
3. 91¢



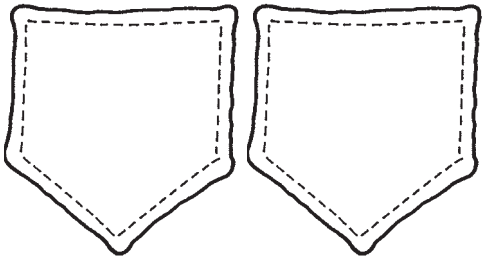
4. $1.05



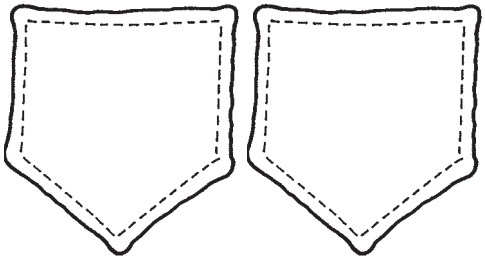
5. $1.26



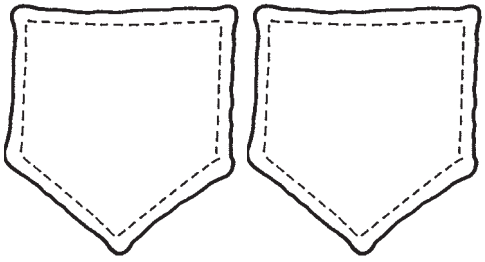
6. 38¢



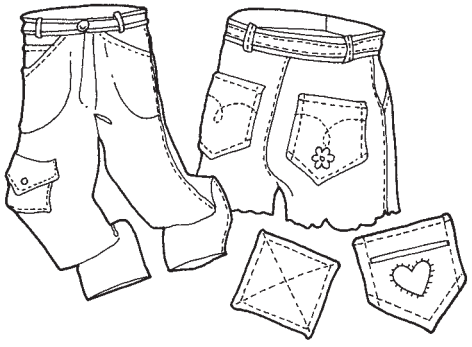
7. 52¢



8. $1.43



Compare your answers with those of a partner.
Put a star next to those that are correct, yet different from your partner's answers.

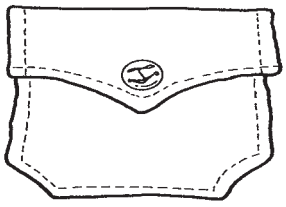


Name _____

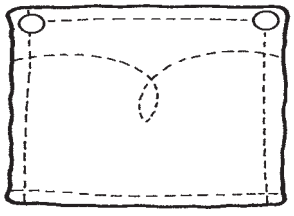
Pockets

Read the clues. Cut out and glue onto a larger piece of paper.
Draw, stamp, or write the name of the coins in each pocket or on the paper.

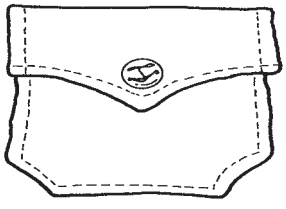
1. In this pocket are 4 coins. Their total value is 32¢.



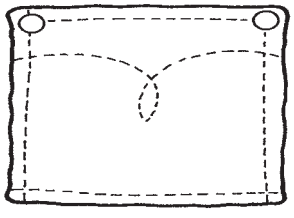
2. In this pocket are 5 coins. Their total value is 40¢.



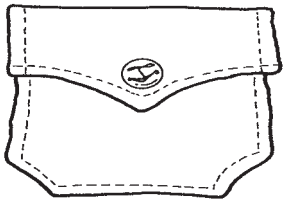
3. In this pocket are 2 coins. Their total value is 60¢.



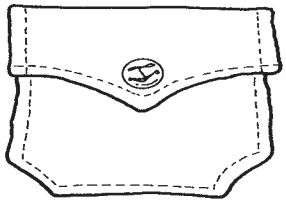
4. In this pocket are 7 coins. Their total value is 55¢.



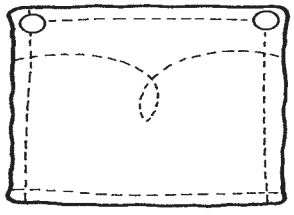
5. In this pocket are 4 coins. Their total value is 85¢.



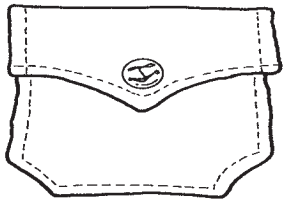
6. In this pocket are 15 coins. Their total value is 80¢.



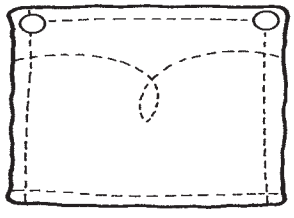
7. In this pocket are 8 coins. Their total value is 98¢.



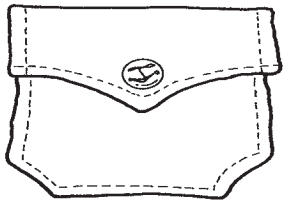
8. In this pocket are 13 coins. Their total value is 25¢.



9. In this pocket are 8 coins. Their total value is $1.60.



10. In this pocket are 14 coins. Their total value is $1.26.



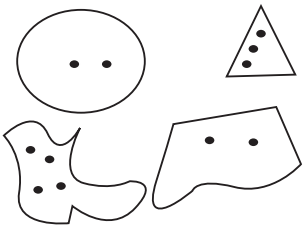
Compare your answers with a partner. Star those that are different.

Name _____

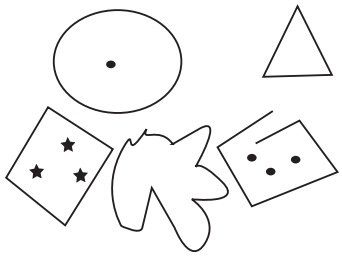
Vips, Vops, and Such

Read the clues. Circle the members of each group.

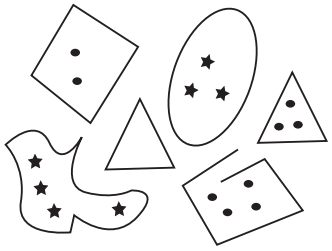
These are all Vips.



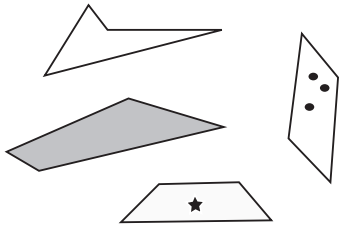
These are not Vips.



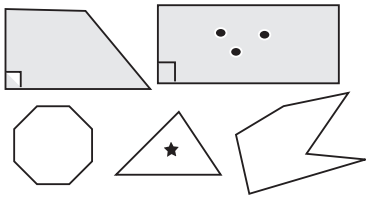
Circle all the Vips.



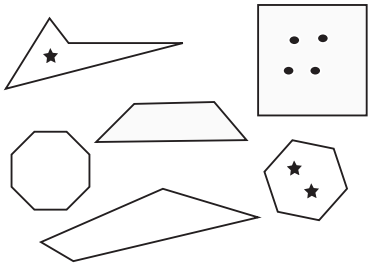
These are all Vops.



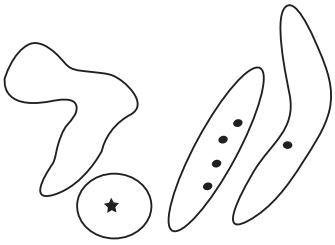
These are not Vops.



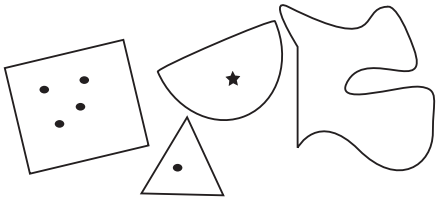
Circle all Vops.



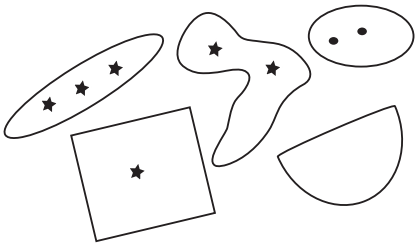
These are Veps.



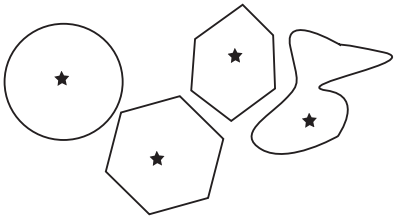
These are not Veps.



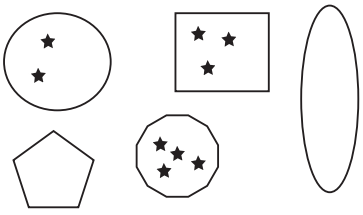
Circle all Veps.



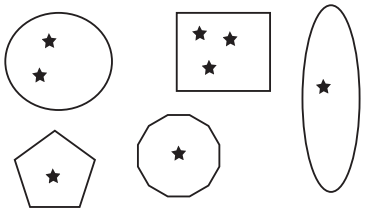
These are Vups.



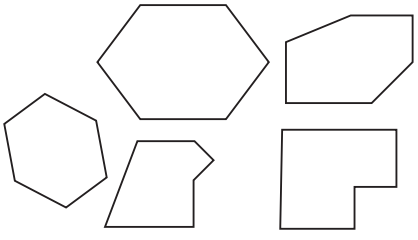
These are not Vups.



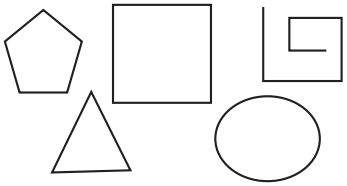
Circle all Vups.



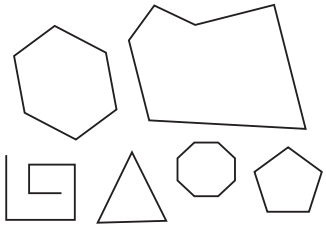
These are Vaps.



These are not Vaps.

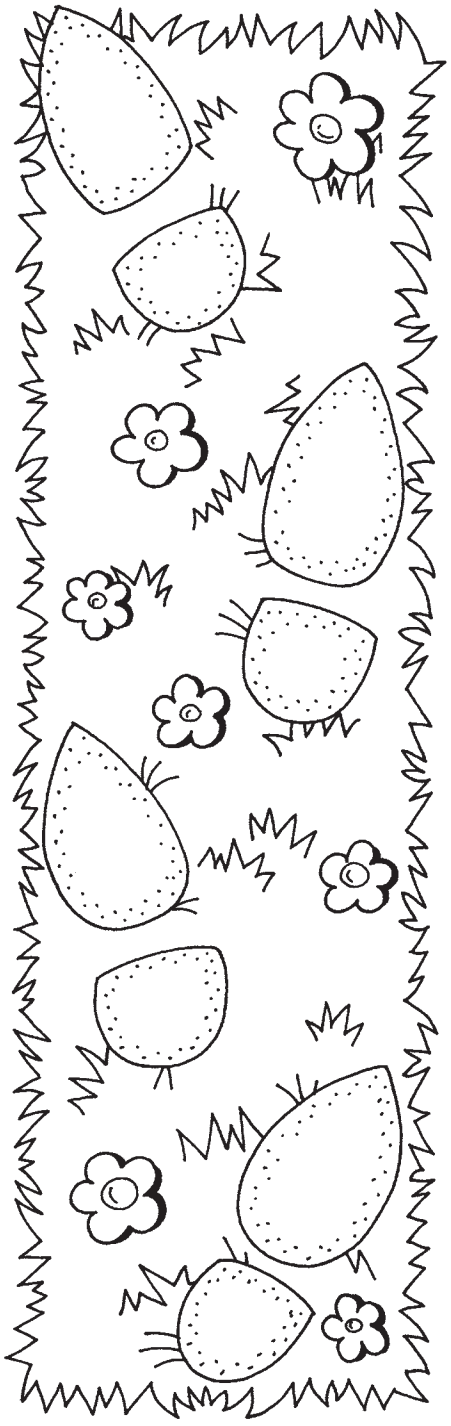


Circle all Vaps.

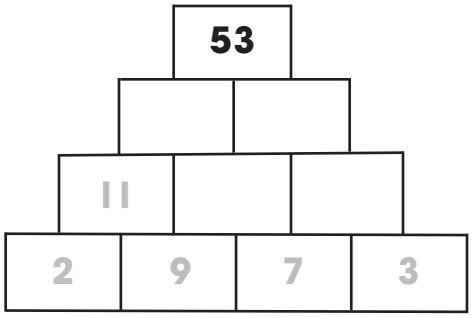


Missing Steps

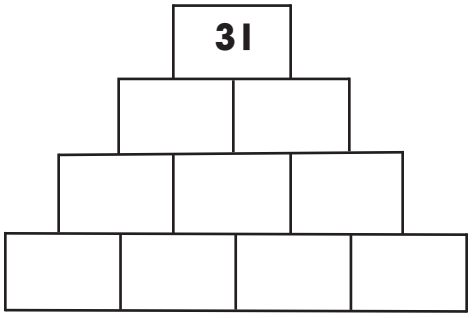
Add your way to the top. Add adjacent numbers and write the sum in the box above them. Use the numbers given to fill in the first row.



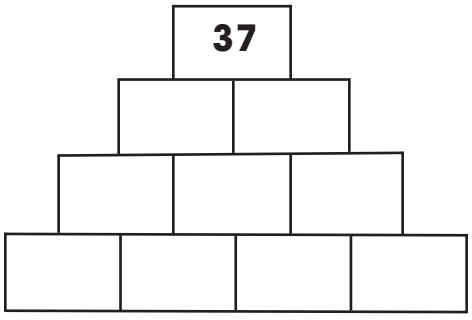
A. 2, 3, 7, 9



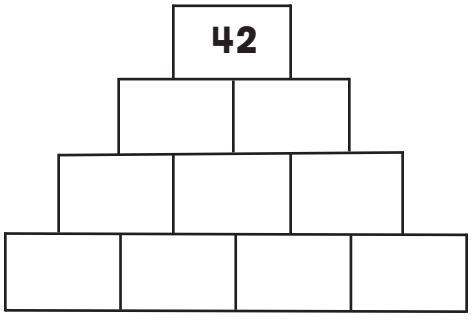
B. 1, 4, 7, 9



C. 1, 4, 7, 9



D. 2, 5, 7, 8

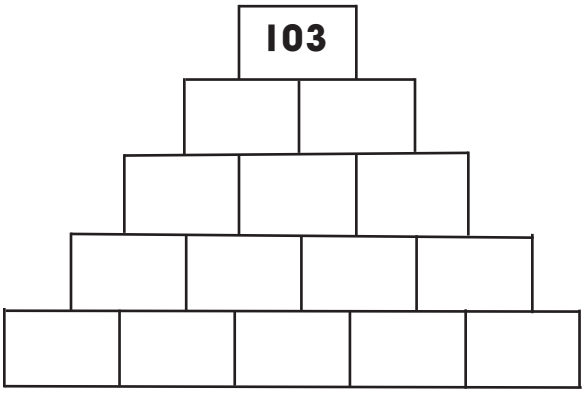


Name _____

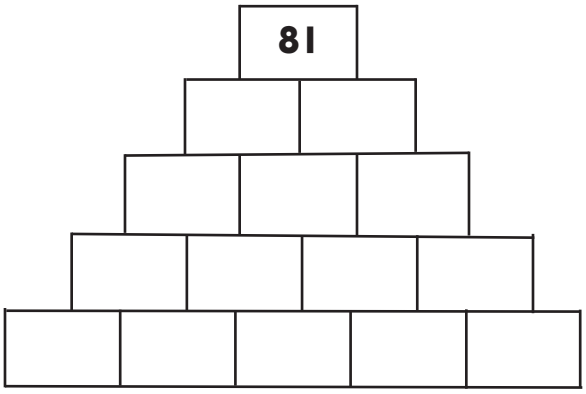
More Missing Steps

Add your way to the top. Add adjacent numbers and write the sum in the box above them. Use the numbers given to fill in the first row.

A. 5, 6, 7, 8, 9



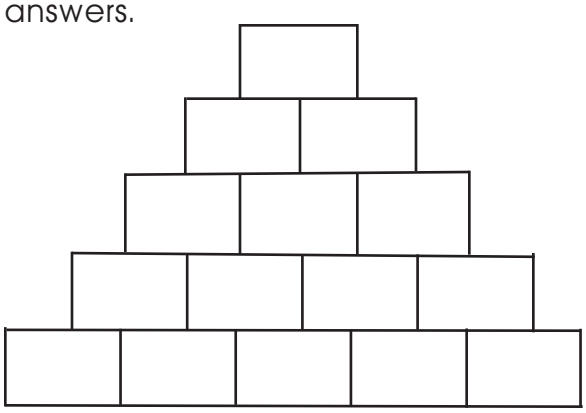
B. 4, 5, 5, 6, 6



Name _____

Write your own. Fill in the bottom row. Then, add your way to the top. Check your answers.

Copy the final sum on the top step of the right pyramid. Leave the other boxes blank. Write the numbers for the first row of steps, in order from least to greatest, on the lines. Fold to hide the answers.

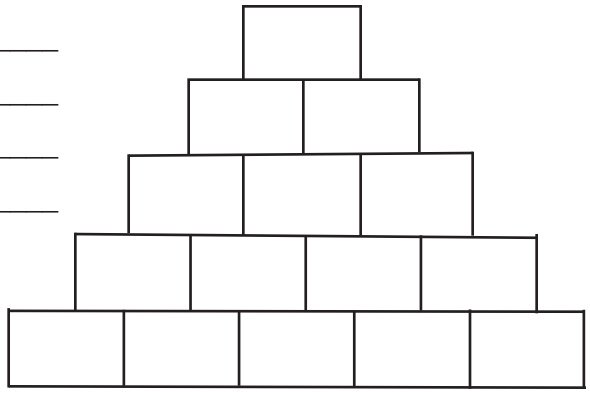


fold

Name _____

Add your way to the top.
Add adjacent numbers and write the sum in the box above them. Use the numbers given to fill in the first row. When finished, check your work.

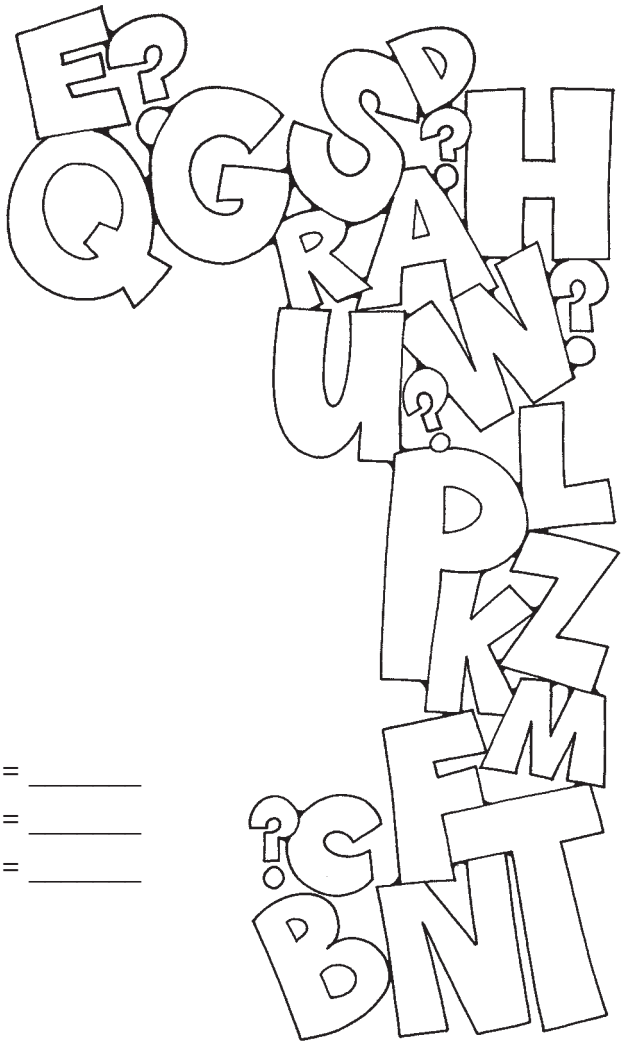
_____
_____
_____
_____
_____



Name _____

Find the Numbers

Each letter stands for a number. Give each letter a number value to make each number sentence true. Provide different ways to solve each. Use the back of this page.



1. **B + B = C**
   C < 20
   ① B = _____ C = _____
   ② B = _____ C = _____
   ③ B = _____ C = _____

2. **N x N = F**
   5 < N < 15
   ① N = _____ F = _____
   ② N = _____ F = _____
   ③ N = _____ F = _____

3. **M – K = Z x P + K**
   ① K = _____, M = _____, P = _____, Z = _____
   ② K = _____, M = _____, P = _____, Z = _____
   ③ K = _____, M = _____, P = _____, Z = _____

4. **S = A + D + H**
   H + H + H = A
   2 x D = S
   ① A = _____, D = _____, H = _____, S = _____
   ② A = _____, D = _____, H = _____, S = _____

5. **G + J = T**
   T = M + R
   R + R = J
   ① G = _____, J = _____, M = _____, R = _____, T = _____
   ② G = _____, J = _____, M = _____, R = _____, T = _____

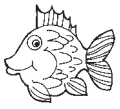
Name _____

Picture Swap

Each number sentence is true if you put the right number in place of the object.
Find the value of each object.

A. 7 +  = 12

 = ____

B. 16 –  = 9

 = ____

C.  +  = 6

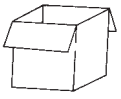
 = ____

D.  – 7 = 3

 = ____

E. 8 + 3 = 

 = ____

F. 13 =  + 5

 = ____

G.  = 12 – 8

 = ____

H. 18 –  = 9

 = ____

I.  +  + 4 = 14

 = ____

J. 17 =  – 3

 = ____

K. 18 =  +  + 

 = ____

L. 12 –  =  + 

 = ____

Make your own. Choose 1 number. Replace it with a picture. Copy the problem with the picture onto a card. Write the answer on the back. Trade with a friend.

Name _____

Spell it Out

Solve. Find the value of each letter. If a letter is found in a second problem, it DOES NOT equal the same value as it did in the last problem.

1. 15 – e = 8
   e = ____
2. 7 + 7 = k
   k = ____
3. 7 – a = 3
   a = ____
4. e = 6 + 9
   e = ____
5. g = 8 – 3
   g = ____
6. 9 – a = 7
   a = ____
7. 7 + r = 13
   r = ____
8. r – 8 = 8
   r = ____
9. 6 = t – 4
   t = ____
10. 5 = 6 – h
    h = ____
11. 5 = i – 7
    i = ____
12. 9 + a = 17
    a = ____
13. 10 = 7 + t
    t = ____
14. 3 + 8 = h
    h = ____
15. t = 5 + 4
    t = ____
16. 8 + w = 8
    w = ____
17. n – 9 = 4
    n = ____

Find your answers from least to greatest in value.
Write the letter for each answer on the line.

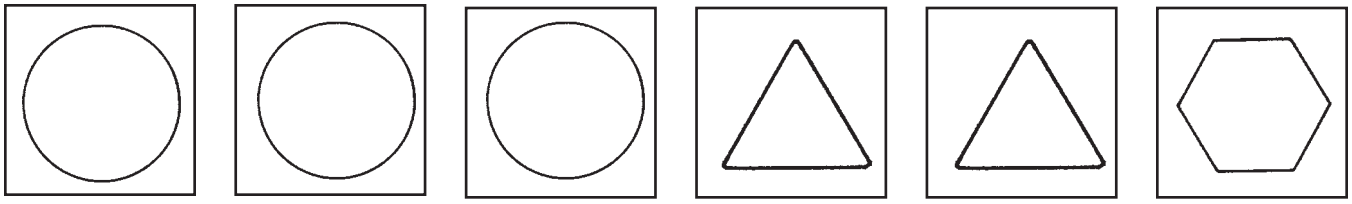
0	1	2	3		4		5	6	7	8	9
W											
16											

10	11	12	13	14	15	16

Name _____

Review Test

How likely is each event? Write **certain**, **impossible**, or **maybe**.



1. First pick square _____
2. Second pick triangle _____
3. Hexagon out, next pick hexagon _____
4. Circles and triangles out, next pick hexagon _____
5. Circle out, next pick triangle _____
6. All straight sided shapes out, next pick circle _____

Read and follow directions.

7. Add 6. Subtract 5, then subtract 2 more. Add 8.
   Add 4, then divide by 3. You get 5. What number am I? _____

8. Write two 3-digit even numbers whose digits add to 12. _____ _____

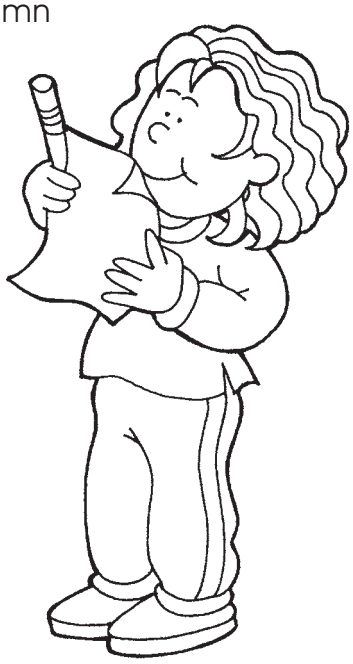
9. Start with the number 5 in the puzzle.
   Place consecutive numbers in the grid so that each column and row have the same sum.
   Write the correct answer beside each letter.

a	**5**	**10**	= _____
7	b	c	= _____
d	e	f	= _____

_____ _____ _____

a = _____ b = _____ c = _____ d = _____ e = _____ f = _____

What is the sum of each row and column? _____



Name _____

Review Test-Continued

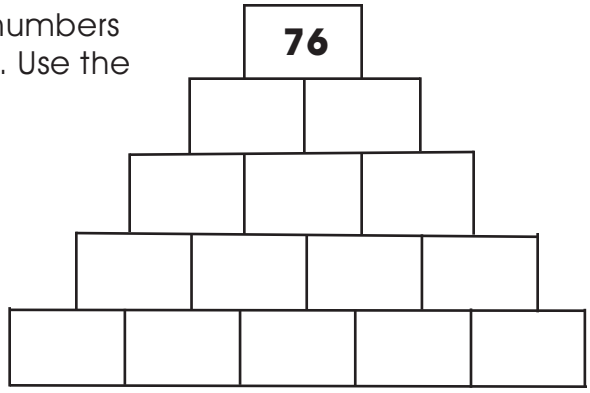
10. Read the clues. Color the figure to match. Tell how many parts equal each color.

- red + white = blue + yellow
- white + yellow = red
- blue < yellow

blue = _____ red = _____ white = _____ yellow = _____

11. Add your way to the top. Add adjacent numbers and write the sum in the box above them. Use the numbers given to fill in the first row.

2, 2, 3, 6, 8



12. Solve. Arrange the answers to fit into the grid. Answers run vertically and horizontally.

a. 157 + 279

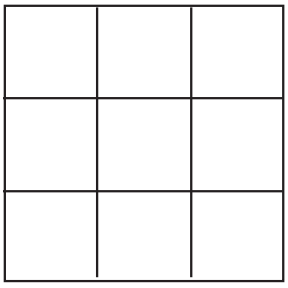
b. 624 − 498

c. 387 + 367

d. 900 − 179

e. 195 + 367

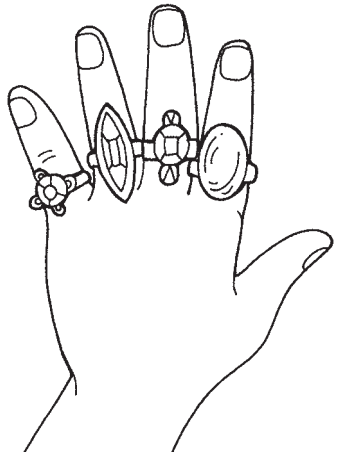
f. 521 − 258



13. Read the clues. Write the colors of the rings in the correct order.

- The first ring is on the left.
- Each ring has a different colored stone.
- The green stone is after the red stone, but before the orange stone.
- The purple stone comes before the orange stone.
- The red stone is not on the pinkie.

Colors: _____ _____ _____ _____



Answer Key

Page 5

Answers will vary. All items in the attribute checklist must be done.

Page 6

7	0	5	12
2	4	6	12
3	8	1	12
12	12	12	

11	4	9	24
6	8	10	24
7	12	5	24
24	24	24	

17	10	15	42
12	14	16	42
13	18	11	42
42	42	42	

Page 7

17	24	1	8	15	65
23	5	7	14	16	65
4	6	13	20	22	65
10	12	19	21	3	65
11	18	25	2	9	65
65	65	65	65	65	

2 to 3: diagonal right
3 to 4: up one, far left
4 to 5: diagonal right
5 to 6: down one
6 to 7: diagonal right
7 to 8: diagonal right
8 to 9: bottom row, 1 right
9 to 10: up one, far left
10 to 11: down one
11 to 12: diagonal right
12 to 13: diagonal right
13 to 14: diagonal right
14 to 15: diagonal right
15 to 16: down one
16 to 17: up one, far left
17 to 18: bottom row, 1 right
18 to 19: diagonal right
19 to 20: diagonal right
20 to 21: down one
21 to 22: diagonal right
22 to 23: up one, far left
23 to 24: diagonal right
24 to 25: bottom row, 1 right

Page 8

A. 34 + 52 = 86
B. 74 – 22 = 52
C. 241 + 526 = 767
D. 783 – 530 = 253
E. 27 + 61 = 88
F. 51 – 35 = 16
G. 154 + 367 = 521
H. 836 – 258 = 578

Page 9

A.	451	B.	728
C.	364	D.	526
E.	184	F.	473
G.	6281	H.	4726
I.	5364	J.	1654
K.	2743	L.	6435
M.	8226	N.	3425

4	7	3
5	2	6
1	8	4

6	4	3	5
2	7	4	3
8	2	2	6
1	6	5	4

Page 10

Example answers:
Circle 1: 1 + 2 = 3, 1 + 2 + 3 = 6, 2 x 3 = 6, 3 + 6 = 5 + 4, 4 x 2 = 4 + 4, 3 + 2 - 1 = 4, etc.
Circle 2: 3 + 5 = 6 + 2, 3 + 5 + 6 = 2 x 7, 6 + 2 = 7 + 1, 7 x 1 = 7, 1 + 7 = 8, 8 x 1 = 3 + 5, etc.
Circle 3: 1 + 4 + 1 + 1 + 6 = 3 + 2 + 5 + 3, 1 x 6 = 3 x 2, 3 + 2 + 5 = 3 + 1 + 4 + 1 + 1, 3 + 1 = 4, etc.

Page 11

	4	8	11	15
Anna	X	O	X	X
Drew	X	X	X	O
Ellie	X	X	O	X
Trevor	O	X	X	X

Anna is 8, Drew is 15, Ellie is 11, and Trevor is 4.

Answers will vary for number sentences.

Page 12

16 possible combinations:

red, oval, yellow, yellow
red, oval, yellow, orange
red, oval, green, yellow
red, oval, green, orange
red, circle, yellow, yellow
red, circle, yellow, orange
red, circle, green, yellow
red, circle, green, orange
blue, oval, yellow, yellow
blue, oval, yellow, orange
blue, oval, green, yellow
blue, oval, green, orange
blue, circle, yellow, yellow
blue, circle, yellow, orange
blue, circle, green, yellow
blue, circle, green, orange

Page 13

1. sandwich a, fruit a, drink a
2. sandwich a, fruit a, drink b
3. sandwich a, fruit b, drink a
4. sandwich a, fruit b, drink b
5. sandwich a, fruit c, drink a
6. sandwich a, fruit c, drink b
7. sandwich b, fruit a, drink a
8. sandwich b, fruit a, drink b
9. sandwich b, fruit b, drink a
10. sandwich b, fruit b, drink b
11. sandwich b, fruit c, drink a
12. sandwich b, fruit c, drink b

Page 14

	apple	banana	carrots	celery
Kalio	X	X	X	O
Liam	X	X	O	X
Mafra	O	X	X	X
Nefty	X	O	X	X

Kalio's snack is celery.
Liam's snack is carrots.
Mafra's snack is an apple.
Nefty's snack is a banana.

Page 15

	pumpkin	sunflower	tomato	watermelon
Ovie	X	X	O	X
Pran	O	X	X	X
Quincy	X	O	X	X
Reba	X	X	X	O

Ovie's seeds will grow tomatoes. Pran's seeds will grow pumpkins. Quincy's seeds will grow sunflowers. Reba's seeds will grow watermelons.

Page 16

1. 4 + 1 + 3 = 8
2. 5 + 5 + 5 + 1 + 2 = 18
3. 2 + 1 + 2 + 1 + 5 = 11
4. 4 + 4 + 2 + 4 + 5 = 19

5–11. Answers will vary.

12. no; something to do with the value of the letters

Page 17

1.	18	5.	8	9.	9
2.	11	6.	10	10.	24
3.	6	7.	9	11.	3
4.	14	8.	12	12.	7

Page 18

1. Janie, Nellie, Ruthie
2. mystery, biography, animal, fairy tale
3. math, read, science, lunch
4. monkey, cat, owl, dog, hippo

Page 19

1. green, blue, yellow
2. 4248
3. key, rubber band, dime, gum
4. red, orange, yellow, green, blue

Page 20

Ellie is 10. Mellie is 8. Esi is 12. Kally is 4. Jose is 1. Jasmine is 6. Abi is 12. Fiona is 9. Obed is 18. Sam is 3. Nina is 6.

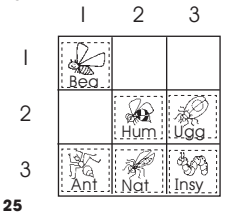
Page 21

1. impossible
2. maybe
3. certain
4. maybe
5. maybe
6. impossible
7. certain
8. impossible
9. certain
10. maybe
11. certain
12. certain
13. impossible
14. maybe
15. maybe
16. impossible
17. impossible
18. certain
19. maybe
20. maybe

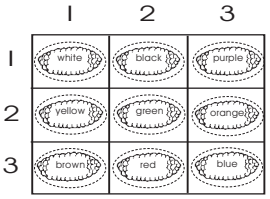
Page 22

1. impossible
2. maybe
3. impossible
4. certain
5. maybe
6. maybe
7. impossible
8. impossible
9. maybe
10. impossible
11. maybe
12. maybe
13. impossible
14. maybe
15. certain

Page 23



Page 24



Page 25

1. snow, sunshine, rain
2. red, blue, green, yellow
3. clover, bug, heart, dog, smile

Page 26

1. red = 0, green = 2, blue = 1, yellow = 2
2. green = 3, brown = 1, yellow = 2
3. red = 2, blue = 1

Page 27

1. 1 black, 1 red, 2 white
2. 1 purple, 1 yellow, 4 green, 3 brown
3. 2 orange, 1 green, 1 blue, 3 purple

Page 28

1. 1 red or 1/6, 2 black or 2/6, 3 white or 3/6
2. 1 white or 1/8, 3 green or 3/8, 4 brown or 4/8
3. 1 white or 1/12, 2 blue or 2/12, 4 yellow or 4/12, 5 red or 5/12
4. 1 orange or 1/9, 2 green or 2/9, 3 purple or 3/9, 3 blue or 3/9

Page 29

1. likely
2. certain
3. not likely
4. impossible
5. chocoltae chip; most of that kind
6. not likely
7. likely
8. impossible
9. certain
10. impossible
11. yellow; fewest of the color

Page 30

A. 987
B. 102,345
C. 10,234
D. 986
E. largest: 742 – 128 = 614; smallest: 247 – 218 = 29
F. largest: 953 – 468 = 485; smallest: 539 – 486 = 53

Page 31

A. 6,987
B. 135
C. 9,876
D. 8,642
E. largest: 852 – 489 = 363; smallest: 852 – 849 = 3
F. largest: 731 – 467 = 264; smallest: 713 – 674 = 39

Page 32

Part A

Circle 1: even numbers only
Circle 2: numbers less than 50 only
Circles 1 and 2 overlapping: even numbers less than 50

Part B

Circle 1: odd numbers only
Circle 2: number having same digits only
Circle 3: numbers between 20 and 40
Circles 1 and 2 overlapping: odd numbers having same digits only
Circes 1 and 3 overlapping: odd numbers between 20 and 40
Circles 1, 2, and 3 overlapping: numbers between 20 and 40 having same digits
Circles 1, 2, and 3 overlapping: odd numbers between 20 and 40 having same digits

Page 33

Answers will vary. The following are example answers:

1. 576
2. 48
3. 63
4. 273
5. 267
6. 904
7. 842
8. 3,579
9. 5,032

Page 34

1. Possible: 22,680; 46,286; Impossible: 6,428; only 4 digits, not 5; Impossible: 26,942; 9 is not an even digit
2. Possible: 8,412; 1,758; Impossible: 9,635; not even; Impossible: 2,430; 3 is not less than 0
3. Possible: 811; 415; Impossible: 352; even number; Impossible: 531; digits add to 9 not 10
4. Possible: 76; 48; Impossible: 67; not even; Impossible; 92; equal to 11

Page 35

Drawings will vary.

1. 5 sides, 6 sides, 7 sides, 8 sides
2. 3 with 3 sides, 1 with 9 sides
3. A = 8 sides, B = 4 sides, C = 12 sides, D = 6 sides
4. 1 with 3 sides, 3 with 4 sides, 1 with 5 sides

Page 36

1. square pyramid; answers vary
2. sphere; answers vary
3. triangular prism; answers vary
4. octagonal prism; answers vary

Page 37

Answers will vary, but must reflect the amount given.

Page 38

Answers vary but may include:

1. quarter, nickel, penny, penny
2. 3 dimes, 2 nickels
3. fifty-cent piece, dime
4. 2 quarters, 5 pennies
5. 3 quarters, 1 dime
6. 5 nickels, 5 dimes, 5 pennies
7. 3 quarters, 2 dimes, 3 pennies
8. 3 nickels, 10 pennies
9. 2 fifty-cent pieces, 1 quarter, 2 dimes, 3 nickels
10. 4 quarters, 4 nickels, 6 pennies

Page 39

1. Circle all closed shapes with 2 or 3 dots.
2. Circle all quadrilaterals without 90° corners.
3. Circle shapes with only curved sides.
4. Circle those shapes with one star.
5. Circle all hexagons.

Page 40

A. row 1: 2, 9, 7, 3; row 2: 11, 16, 10; row 3: 27, 26
B. row 1: 9, 4, 1, 7; row 2: 13, 5, 8; row 3: 18, 13
C. row 1: 9, 1, 7, 4; row 2: 10, 8, 11; row 3: 18, 19
D. row 1: 5, 2, 8, 7; row 2: 7, 10, 15; row 3: 17, 25

Page 41

A. row 1: 9, 5, 7, 6, 8: row 2: 14, 12, 13, 14; row 3: 26, 25, 27; row 4: 51, 52
B. row 1: 6, 4, 5, 6, 5; row 2: 10, 9, 11, 11; row 3: 19, 20, 22; row 4: 39, 42

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1. answers vary, ex: B = 5, C = 10
2. answers vary, ex: F = 36, N = 6
3. answers vary, ex. K = 13, M = 36, P = 5, Z = 2
4. answers vary, ex: A = 9, D = 12, H = 3, S = 24
5. answers vary, ex: R = 4, J = 8, G = 2, T = 10, M = 6

Page 43

A. 5	C. 3	E. 11	G. 4	I. 5	K. 6
B. 7	D. 10	F. 8	H. 9	J. 20	L. 4

Page 44

1. 7	4. 15	7. 6	10. 1	13. 3	16. 0
2. 14	5. 5	8. 16	11. 12	14. 11	17. 13
3. 4	6. 2	9. 10	12. 8	15. 9	

Page 45

1. impossible
2. maybe
3. impossible
4. certain
5. maybe
6. certain
7. 4
8. 660 and 912
9. a = 12, b = 9, c= 11, d= 8, e = 13, f = 6; sum = 27

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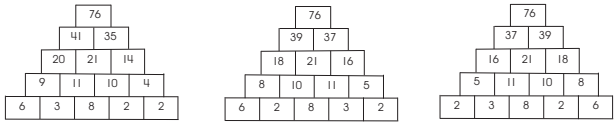
10. blue = 2, red = 4, white =1, yellow = 3
11.



12. a. 436
    b. 126
    c. 754
    d. 721
    e. 562
    f. 263

7	5	4
2	6	3
1	2	6

13. purple, red, green, orange