Fun with Multiplication

A	E	I	O	U	Y	W

If this is the pattern unit, what letter would be in the 12th square? the 28th square? the 37th square? How do you know?

(5.02. 1.03a)

Writing About Math

There are four quarters in a football game. Write about other ways you use the word "quarter". How can this help you remember the number of quarts in a gallon?

(1.03a)

Let's Explore

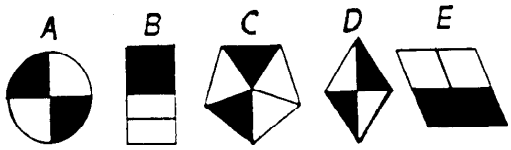
Mystery Numbers

I am thinking of three numbers. They are all even. They are all multiples of two, eight, and four. They all have two digits. They are all between 15 and 65. If you arrange the three numbers from smallest to greatest, the second number is twice the first number. The third number is twice the second number. What are my three numbers?

(1.03a, 1.06)

Seeing Math

Which one does not belong? Explain.



(5.02)

Let's Find Out

Use 20 pattern blocks (trapezoids, hexagons, triangles, and blue parallelograms). Build a design.

If a green triangle has a value of 10¢, what is the value of your design?

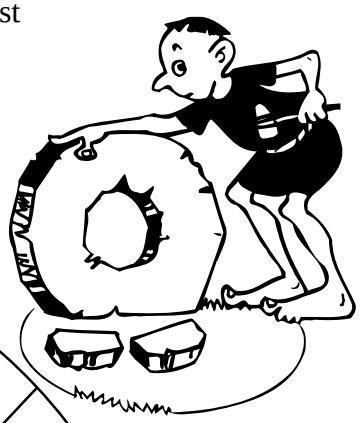
Can you make a design with six pattern blocks worth 80¢ ?

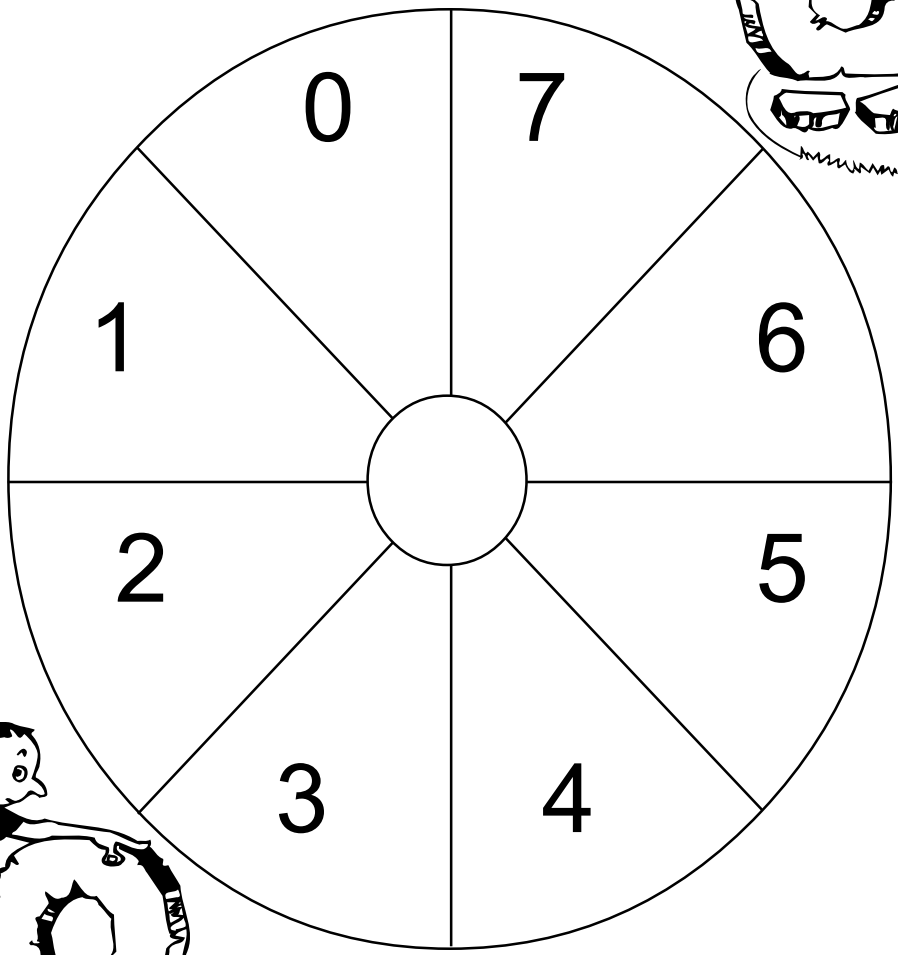
If a design is worth $1 what is the least number of blocks you could use? the most?

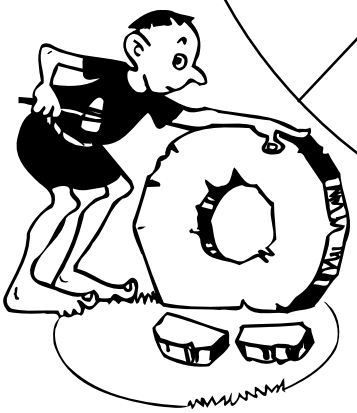
(1.06)

SPIN AND REVIEW

Number of Players: Three to four
Materials: Spinner, pencil, a paper clip, game cards (Blackline Master Week Thirty-three), bucket of chips or counters
Directions: The leader shuffles the game cards, then draws from the top of the deck and reads the question to player one. If player one answers correctly, a spin is taken on the spinner and player one collects that number of chips. The game card is then placed in the discard pile. If player one does not answer correctly, no spin is taken and the game card is placed at the bottom of the deck. The game continues with the next player. When all the cards have been answered correctly, players count their chips. The player with the most chips wins.







Review

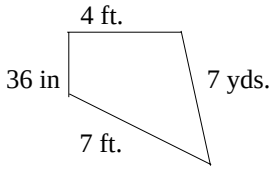
Keeping Skills Sharp

1. 6,980 + 120 = 7,000 + ___ =

2. 9,753 - 753 = 4,000 +___

3. 12 x 6 = ___

4. Find the distance around this garden.



5. What is the value of the 4 in 143,031?

6. What time will it be in one hour?

7. 3 pints = ___ cups

8. Mrs. Jones class writes letters to pen pals in Alaska. They wrote 8 letters each week for 12 weeks. How many letters did they write?

Solve this!

How many different double dip ice cream cones can be made with these flavors? {vanilla, strawberry, chocolate, blueberry}

What is the probability of getting chocolate and vanilla? Is this different from vanilla and chocolate?

(4.02)

To the Teacher

Grade 3
WEEK 33

Fun with Multiplication:
Students should share strategies. They should identify the pattern unit as BOG or 1,2,3. The 12th. square is a multiple of three and would be G. Students should generalize that all multiples of three will be G.

Seeing Math:
All figures have $\frac{2}{4}$ or $\frac{1}{2}$ shaded except C.

Let's Find Out:
Observe students to see whether they are working with an organized strategy or at random. Students should share their strategies. (6 possibilities)

Let's Explore:
The three numbers are 16, 32 and 64.

Solve This:
This problem will allow students to use multiplication, perimeter, and area with objects in their environment. Encourage them to cover index cards or post-it notes with square tiles. Some may find area of 3 x 5 as 5 + 5 + 5. Examples for 4″ x 6″ would be picture frames or photographs.

Mental Math

Directions to Students: Number your paper from 1 to 8. Write your answers as the questions are called out. Each question will be repeated only once.

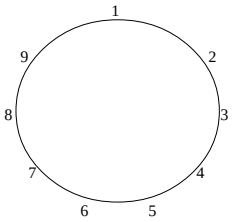
8 x 6	6 + 5 - 8 x 0
$2.30 less than five dollars	90 - 29
What comes next ... 8, 13, 18, ___?	Number of cm in a meter
Fifteen minutes before 2 o'clock	Number of days in seven weeks

Keeping Skills Sharp

100	40,000
5,000	10:20
72	6 cups
35 ft..	96

Fun with Multiplication

Multiply the numbers from one to twelve by three. Find the sum of the digits. Connect the sums in order on the circle diagram. What do you notice?



Ex. 3 x 6 = 18
1 + 8 = 9

(5.01)

Writing About Math

Complete a circle diagram for the facts for 9. (Follow the directions in Fun with Multiplication.) Describe the picture or pattern. Explain why this happened.

(1.03a, 5.01)

Let's Explore

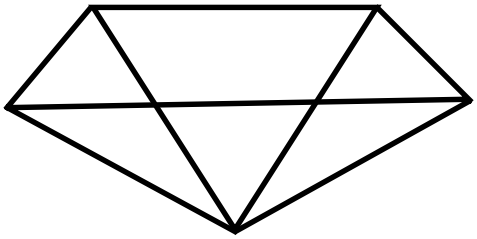
Imagine that you work in an ice cream shop making sundaes. There are five flavors of ice cream and three kinds of sauce. How many different sundaes can you make using one scoop of ice cream and one sauce?

Ice Cream Flavors	Sauces
Vanilla	Fudge
Strawberry	Butterscotch
Chocolate	Caramel
Rocky Road	
Chocolate Chip	

(4.03)

Seeing Math

1) How many triangles are in this pentagon?



2) Draw in the rest of the diagonals. Now how many triangles can you find?

(5.01, 1.03a)

Let's Find Out

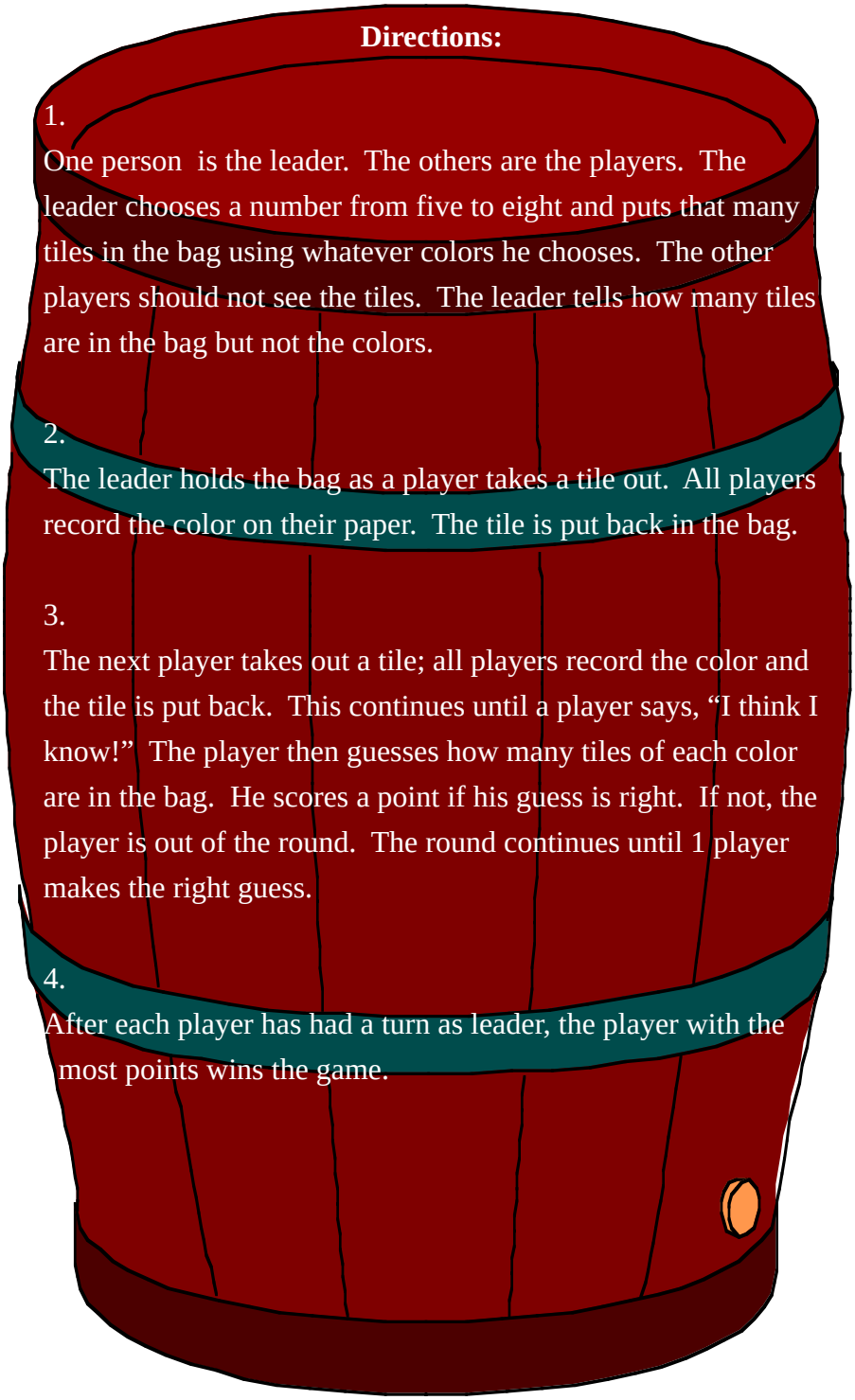
Make and record as many different four-digit numbers as you can, using each of the digits only once in a number.

Order the numbers from least to greatest.

(4.02, 1.01c)

RANDOM TILES

Number of Players: Three to five
Materials: Color tiles or counters in four different colors, a paper bag, scrap paper



Directions:

1.
One person is the leader. The others are the players. The leader chooses a number from five to eight and puts that many tiles in the bag using whatever colors he chooses. The other players should not see the tiles. The leader tells how many tiles are in the bag but not the colors.

2.
The leader holds the bag as a player takes a tile out. All players record the color on their paper. The tile is put back in the bag.

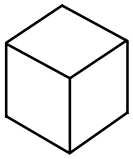
3.
The next player takes out a tile; all players record the color and the tile is put back. This continues until a player says, "I think I know!" The player then guesses how many tiles of each color are in the bag. He scores a point if his guess is right. If not, the player is out of the round. The round continues until 1 player makes the right guess.

4.
After each player has had a turn as leader, the player with the most points wins the game.

(4.030

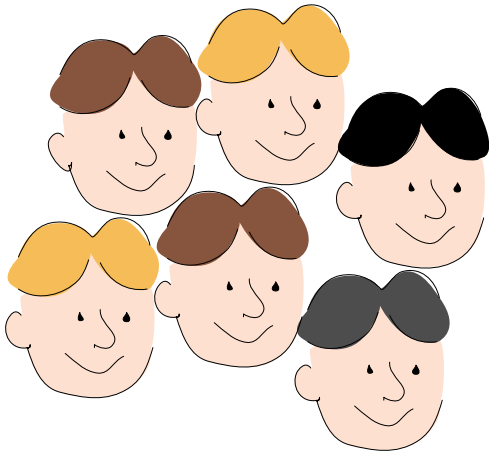
Keeping Skills Sharp

1. 4,000 + 800 + 23 - 3,000 = ___
2. 8,963 - 2,396
3. 5 x 25 =
4. How many faces,edges, and verticies on a cube.



5. Write 62,453 in expanded form.
6. Brock's paper airplane flew 36 feet. How many yards would is that?
7. There are ___ quarts in 6 gallons.
8. Allen bought four bags of hot dog rolls for the picnic. Each bag has 8 rolls. During the picnic 21 rolls are eaten. How many rolls are left?

Solve this!



Six brothers opened a new bag of cookies. They shared all the cookies in the bag. They each got $7\frac{1}{3}$ cookies.

How many cookies were in the bag?

(1.03a, 1.06)

To the Teacher

Grade 3
WEEK 34

Fun with Multiplication:
Materials: Circles labeled 1-9, rulers, colored pencils or crayons.

Directions: Students choose a multiplication table to graph. Add the sum of digits in each product. Use a ruler to connect the sums. Students may need a recording tool to assist them. Always sum to get one digit. Ex. Table of sixes 6 x 8 = 48
4 + 8 = 12
1 + 2 = 3

Multiply by	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
Sum of digits	2	4	6	8	1	3	5	7	9	2	4	6

Connect the numbers in your repeating pattern.

Seeing Math:

Writing About Math:
When the sum of the digits for all products of nine are added to get a single digit, that digit is always nine. Children are amazed that the dot doesn't move. Some students just make the dot larger as they move through the pattern.

Solve This:
Students may need to illustrate this with pictures or numbers. Forty-four cookies were in the new bag.

Let's Explore:
Students need to show information in an organized way as a table or chart. There are 15 combinations.

Mental Math

Directions to Students: Number your paper from 1 to 8. Write your answers as the questions are called out. Each question will be repeated only once.

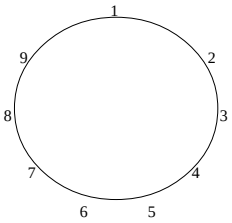
9 ÷ 3	56 + 300 - 5 + 20
$2.35 less than $5.00	Number of quarts in 4 gallons
What comes next ... 635, 634, 633, ___?	1 x 9 + 8 - 7
Twenty minutes after 3:05	No. of days in July

Keeping Skills Sharp

1,823	60,000+ 2,000+ 400+50+3
6,567	12 yd.
125	24 qts.
6 + 12 + 8	11 rolls

Fun with Multiplication

Multiply the numbers from one to twelve by six. Find the sum of the digits. Connect the sums on the circle diagram. Compare with the diagram for threes (wk. 34). Can you find a two-digit number that will make the same pattern?



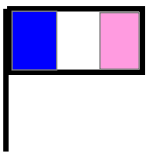
(1.03a, 5.01)

Writing About Math

You are making three-color flags for your class. If you have four colors to choose from, how many different designs are possible?

All flags need to have three stripes, either horizontally or vertically.

Explain how you will do this.



(4.02, 4.03)

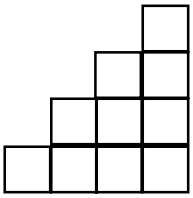
Let's Explore

R Y R Y Y R Y Y Y R

If you make this pattern until you have 10 yellow counters in a row and then stop, how many of each color will you need? Explain your thinking. How many of each color will you need if you stopped after 20 yellow counters?

(1.06, 5.01)

Seeing Math



How many squares does it take to add another step. How many squares would it take to build this shape with ten steps?

(5.01, 5.02)

Let's Find Out

You can only touch the

1 , 0 , + , - and =

keys on your calculator.

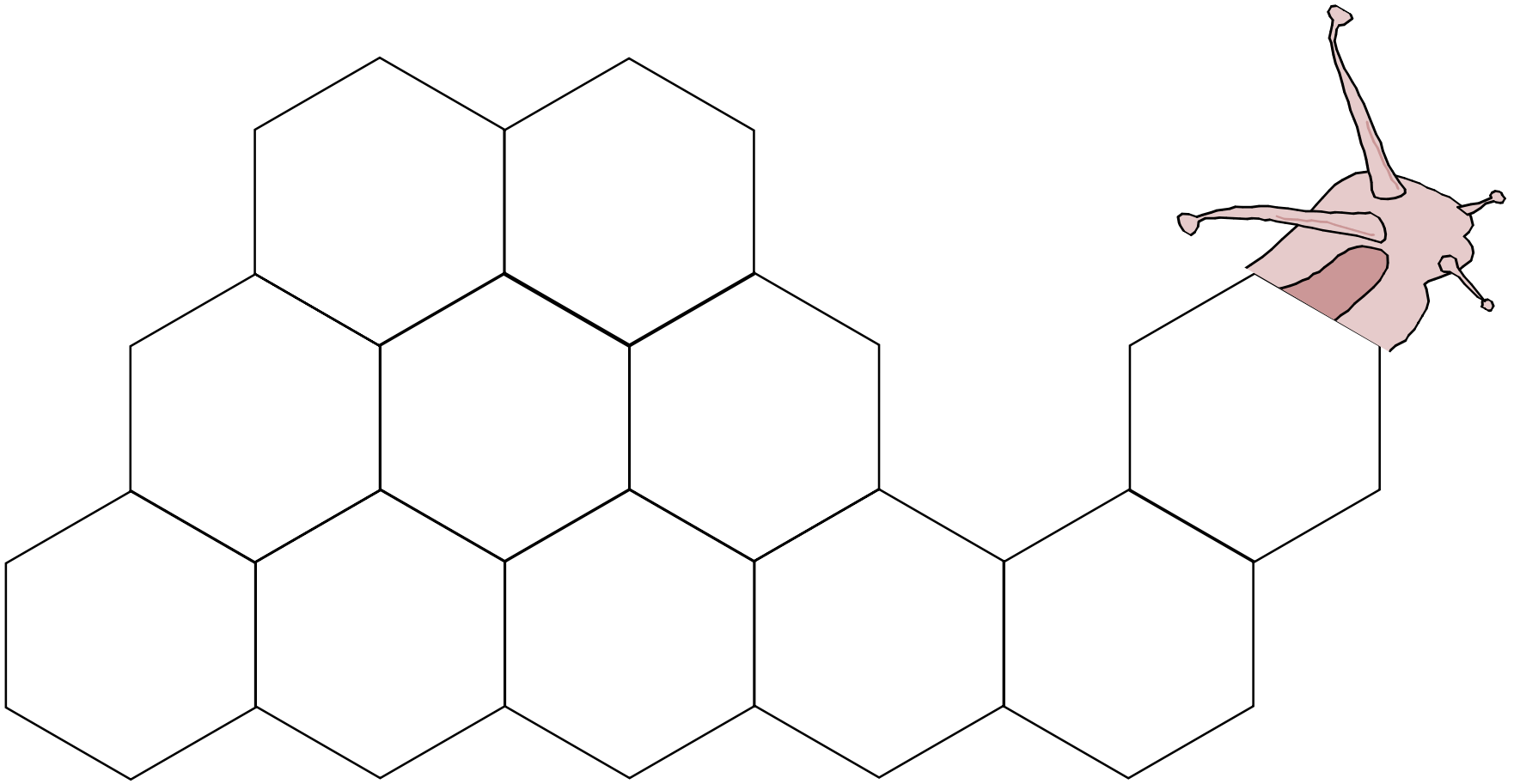
Your job is to make your calculator display show 983. How many ways can you find?

What is the shortest way to get to 983?

(1.01b, 1.06)

SNAIL NIM

Number of Players: Two
Materials: Gameboard, pattern blocks
Directions: Players take turns placing triangles, parallelograms, trapezoids and hexagons on the snail. The person who places the last block loses.
Variation: Person who places the last block wins.



(1.06)

Keeping Skills Sharp

1. 7,789 + 234 = ___ 2. 4,986 - 99 = ___

3. 6 x 6 = 3 x ___

4. There are 54 members in our school choir. At the concert, they stood in nine rows with equal members in each row. How many students are in each row?

5. Joan has ten tacos. If she eats one-fifth of them, how many will she eat?

6. What is the value of 3 in 96,346?

7. Three gallons equals how many quarts?

8. A soccer ball weighs about 450 grams. How many more grams would it take to weigh 1 kilogram?

Solve this!

The combination to a lock requires the numbers 24, 36, 17. The piece of paper with the written combination was torn. Only the first number 24 was left. What are all the possible combinations that might open the lock?

(4.02)

To the Teacher

Grade 3
WEEK 35

Fun with Multiplication:
See directions in Teacher To Teacher Week 34.
Elicit from students that multiples of six are also multiples of three. They may need to investigate this idea using a calculator. They will find that 12 will make the same pattern as will 24. Many students will search for others. (Calculators should be available.)

Writing About Math:
Eight does not work in the pattern discovered in Multiplication Fun. 318 does work because (3+1+8=12) (1+2=3). The sum of the digits for the multiples of six will always be 3, 6, or 9.

Seeing Math:
15 for five steps
55 for ten steps

Let's Find Out:
Answers will vary. The shortest way to get 983: 1000 - 10 - 10 + 1 + 1 + 1 = 983

Let's Explore:
Give students two color counters to use. They would need 10 red counters and 55 yellow counters.

Problem Solver Special:
Encourage students to form an organized list in finding possible combinations.

Possible combinations:	24, 36, 17, 4	24, 17, 4, 36	24, 4, 36, 17
	24, 36, 4, 17	24, 17, 36, 4	24, 4, 17, 36

Mental Math

Directions to Students: Number your paper from 1 to 8. Write your answers as the questions are called out. Each question will be repeated only once.

5 + 1	4 x 5 + 10 + 2
Three quarters less than $1.50	Number of minutes in a quarter of an hour
Number of fourths in 2, in 225	4 x 5 + 50 - 2
Twenty minutes before 6:10	Temperature in Fahrenheit when water freezes

Keeping Skills Sharp

8,023	2
4,887	three hundreds
12	12 quarts
6	550 gm

Fun with Multiplication

If today is Friday, what day of the week is it in 523 days?

What day was it 492 days ago?

(1.03, 1.05)

Writing About Math

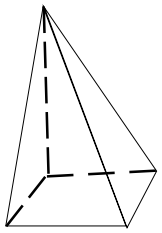
Write a letter to a second grader. Tell about the math that he/she will learn in the third grade.

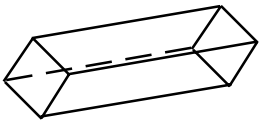
Let's Explore

How many times do you think you would have to roll two number cubes to get a double? Estimate the number. Now try it. Record your results. Try it again. Record.

(4.03)

Seeing Math

a. 

b. 

List the number of faces, edges, and vertices for each polyhedron.

(3.01)

Let's Find Out

The Boy Scouts built a nature trail at the recreation center. The trail started and ended at the same place. Two sides were 60 feet long, two sides were 30 feet long, and one side was 18 feet long.

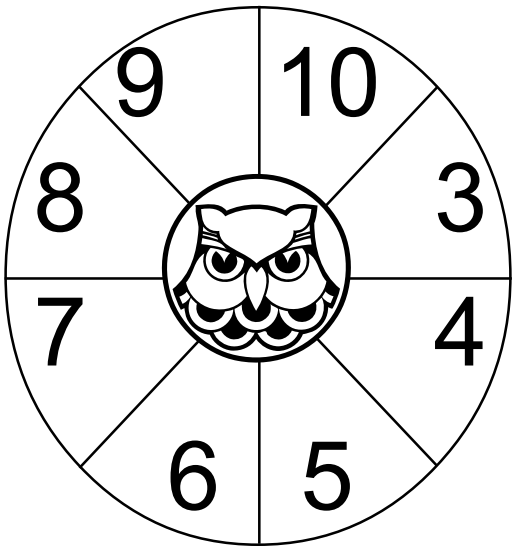
A. What is the name of the shape of the nature trail?

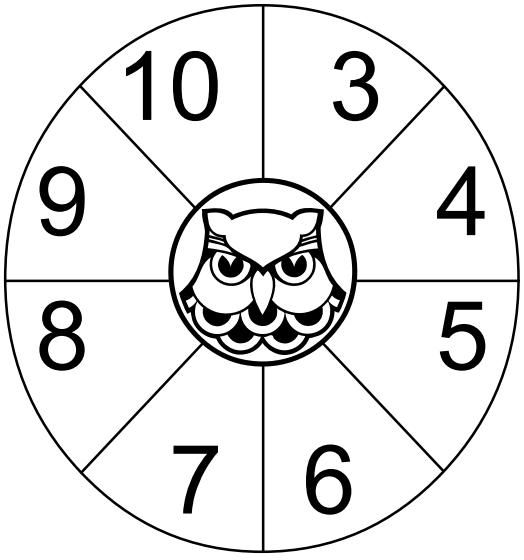
B. How long is the nature trail (in feet)?

C. How long is the nature rail (in yards)?

(2.01b)

WHOSE WINNING PRODUCTS?



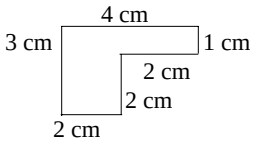


Number of Players: Any number
Materials: Each player needs a gameboard, markers, pencil, paper clip
Directions: Looking at the spinners, each player fills in squares on his gameboard with possible products. In turn, each player spins both spinners and multiplies. All players cover the product if it appears on their gameboard (like bingo). First player to cover six in a row in any direction wins.

(1.03a)

Keeping Skills Sharp

1. 6,307 + 3,584 = ___
2. 9,801 - 2,362 = ___
3. 4 x 27 =
4. Find the distance around.



5. If two dozen eggs are arranged in a carton in four equal rows, how many eggs are in each row?
6. Thirty-five minutes after 2:05
7. Latasha's baby brother weighed 7 lbs. at birth. How many ounces did he weigh?
8. Barbara had a collection of colored rocks. She gave half of her rocks to her friend Ella. Then she gave six of the rocks to her friend Ann. Barbara had twelve rocks left. How many rocks did Barbara have when she began?

Solve this!

The school store sells boxes of erasers in three different quantities: 3 erasers to a box, 7 erasers to a box, and 18 erasers to a box.

A. Larry needs to buy 16 erasers. Show the boxes he would buy to get exactly 16 erasers.

B. Mr. Sharp would like to buy 64 erasers for his classroom. Show the boxes he would buy to get exactly 64 erasers. Can you find more than one way?

(1.06, 1.03a)

To the Teacher

Grade 3
WEEK 36

Fun with Multiplication : Wednesday in both cases.

Seeing Math:

A. faces 5
edges 8
vertices 5

B. faces 6
edges 12
vertices 8

Let's Explore:

Dog pen: Accept any answer above if child is able to justify reasoning. Note: The units given (inches) would not be appropriate for a dog pen; however, a square would give the largest area. It would be appropriate to change the units to yards for the dog pen discussion.

Let's Find Out:

A. Pentagon (5 sided polygon)

B. 198 feet

C. 66 yards

SolveThis:

Provide calculators.

A. 3 boxes of 3 and 1 box of 7

B. 3 boxes of 18, 1 box of 3 and 1 box of 7; or 2 boxes of 18 and 4 boxes of 7; or 13 boxes of 3, 1 box of 18 and 1 box of 7

Mental Math

Directions to Students: Number your paper from 1 to 8. Write your answers as the questions are called out. Each question will be repeated only once.

15 ÷ 5

29 + 40 - 3 + 10

Number of days in six weeks

80 + 29

What comes next ...
1, 1 1/4, 1 1/2, ___?

4 + 4 x 3 ÷ 2

Two hours after 11:15

Number of halves in three and a half

Keeping Skills Sharp

9,891

6 eggs

7,439

2:40

108

112 oz.

14cm

36 rocks

Correlation of Week-by-Weeks with Grade Three Objectives

	Number and Operations	Measurement	Geometry	DataAnalysis & Probability	Algebra
1st Quarter	1.01, 1.03, 1.04, 1.06	2.01			5.01, 5.02
2nd Quarter	1.02, 1.03, 1.06		3.01, 3.02	4.01	5.01, 5.02
3rd Quarter	1.03, 1.04, 1.05, 1.06	2.02			5.03, 5.04
4th Quarter	1.03, 1.04, 1.05, 1.06			4.02, 4.03