Fun with Multiplication

Function Machine	
IN	OUT
3	9
7	21
__	15
6	__
9	27

Fill in the blanks on the Function Machine. What rule did the Function Machine use?

(5.01, 1.03a)

Writing About Math

If the answer is eight, what could the question be?

Write as many as you can.

(1.06)

Let's Explore

Use a calculator:

1. Key in the first three digits of your phone number.
2. Multiply by 80.
3. Add 1.
4. Multiply by 250.
5. Add the last 4 digits of your phone number.
6. Add the last 4 digits of your phone number.
7. Subtract 250.
8. Divide by 2.

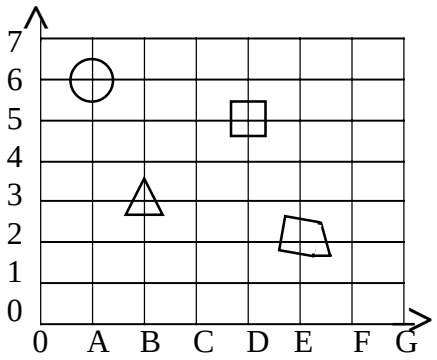
Do you recognize the number?

How did this happen?

(1.01a)

Seeing Math

Give the coordinates of the triangle, square, circle and trapezoid.



(3.02)

Let's Find Out

How many connecting cubes can you fit in your shoe?

Working in a group of five or six students, display your data on an appropriate graph.

(4.01)

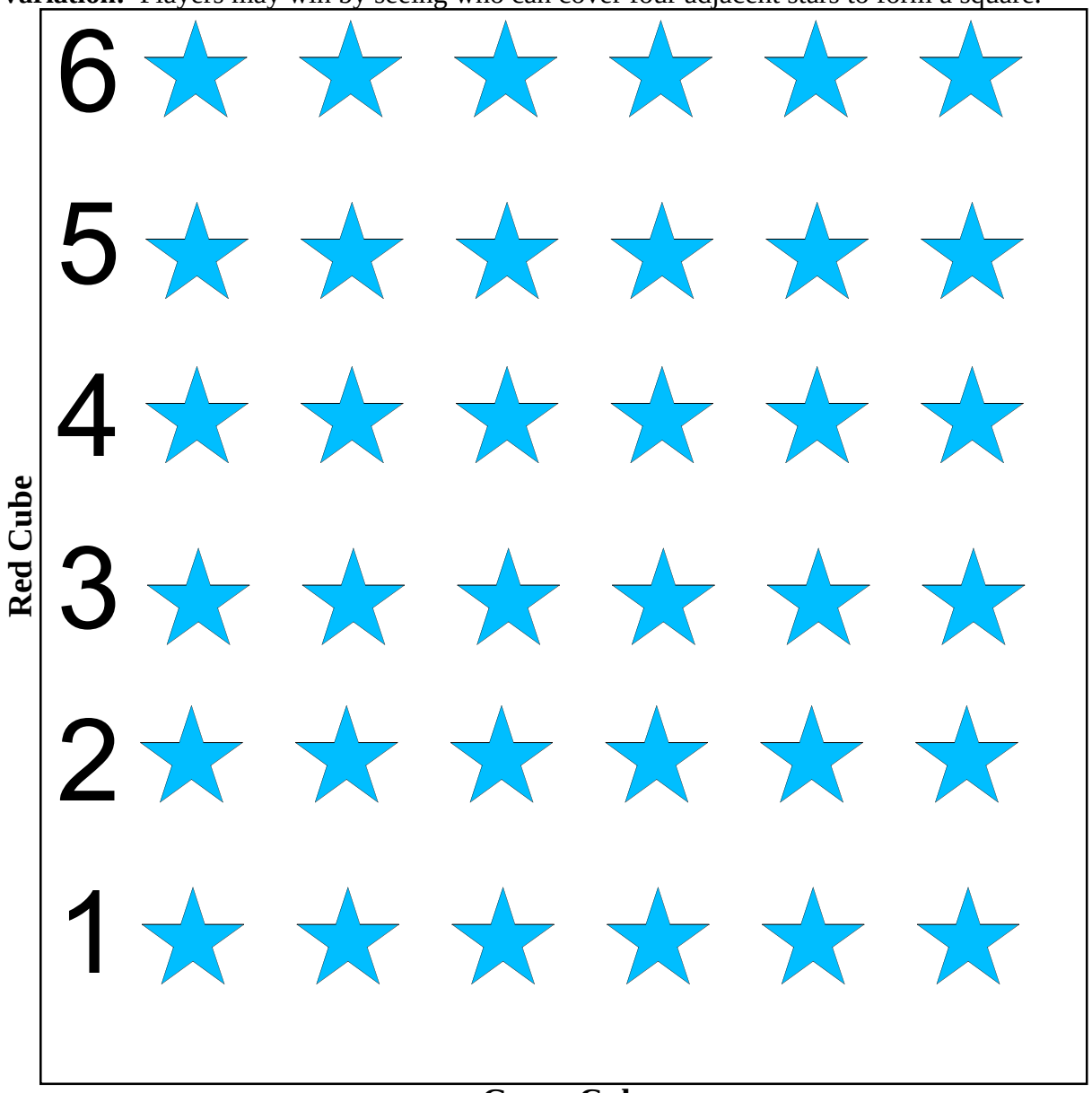
SHOOT FOR THE STARS

Players: Two

Materials: Red and green number cubes, 10 markers (players have different colors) for each player, gameboard

Directions: Players take turns rolling the cubes. If, for example, a green two and a red three are tossed, the player would cover the star at (2, 3). If a player tosses and the star at that place is taken, the player loses that turn. The first to get four in a row wins.

Variation: Players may win by seeing who can cover four adjacent stars to form a square.



(3.02)

Keeping Skills Sharp

1. 36 + 28 =
2. 82 - ☐ = 31
3. 42 + 39 =

4. Jake earned $4 for raking the yard, five quarters for feeding the dog and 42 dimes for washing the car. He wants to buy a video game for $10. Does he have enough money? Explain your answer.

5. What time is it 35 minutes after this?

6. A polygon with four sides, all the same length and four square corners.

7. 3 hundreds, 9 tens and 17 ones.

8. At the park, there were seven bicycles and three tricycles. How many wheels would that be?

Solve this!

Roberto is saving for a pair of tennis shoes that cost $55. He has $15 now. If he saves $3 a week, how many weeks will Roberto need to save in order to buy the shoes?

(1.03a, 1.06)

To the Teacher

Grade 3
WEEK 13

Writing About Math:
Encourage students to explore a variety of solutions. Most will initially produce an addition problem such as 4 x 4. Other possible solutions could include other operations (12 - 4, 2 x 4 , 24 ÷ 3), sides on an octagon, number of legs on two dogs, etc.

Let's Find Out:
Have students explore displaying this data in different formats such as tables, circle graphs, line plots, Venn diagrams etc.
Remind students to label and title their graph. As an extended activity, create a class line plot to show the data. What is the mode? Discuss the range of the data (the difference between the smallest and largest data entry).

Let's Explore: Students will see their phone numbers when they are successful.

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.

(30 -10) doubled	One half of 5 x 10
Cans in four 6-packs of soda	12 tens and 3 hundreds
What comes next ... 2268, 2270, 2272, ____?	10 less than 4193
Change from $3 if I spend six quarters	half a foot

Keeping Skills Sharp

64	6:20
51	square
81	407
No, he needs 55¢ more.	23

(1.03a)

Fun with Multiplication

Use snap cubes to make models for each of the following:

4 groups of 3 4 groups of 6
4 groups of 4 4 groups of 8

Write the multiplication fact for each model. How is 4 groups of 6 different from 4 groups of 3?.

(1.03a)

Writing About Math

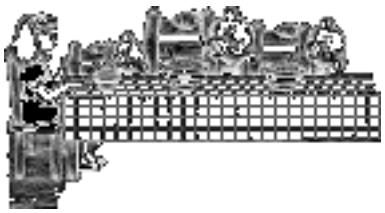
How do your family members use mathematics?

Interview them and write about your findings.

Let's Explore

If a square represents a table for four people, arrange the squares to form a banquet table for eighteen people. Draw and record.

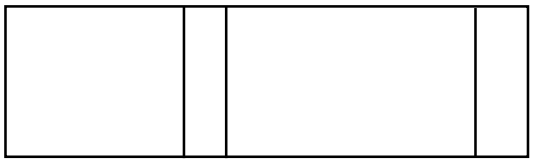
Record a different way to seat eighteen at a banquet table.



(1.06)

Seeing Math

How many rectangles can you find?



What strategies did you use?

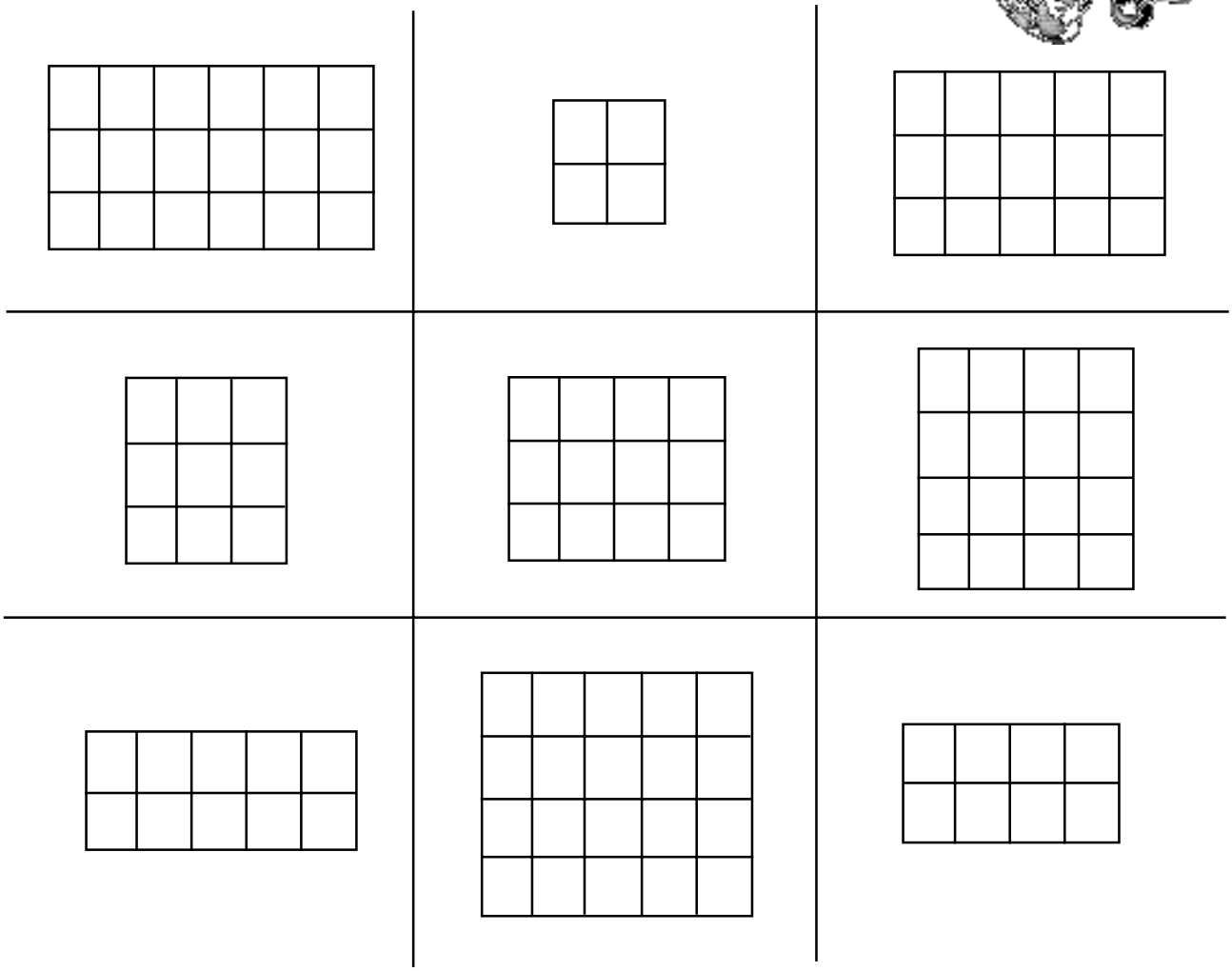
(3.01)

Let's Find Out

Work in a group of five or six. Predict the number of drops of water that will fit on a penny. Share your prediction with your group. Establish rules for dropping water on the penny. Use a dropper to find how many drops of water will fit on the penny. Construct a graph to display the date. Compare your graph with the graph of another group. Write about the similarities and differences.

(4.01)

TIC-TAC-TOE ARRAY



Players: Two

Materials: Gameboard, pile of centimeter cubes, five game markers for each player. Spinner (Blackline Master Week Fourteen)

Directions:

- Take turns spinning the spinner. The number you spin tells you the number of cubes to take.
- Use the cubes to build one of the rectangles shown on the gameboard (all cubes do not have to be used)
- Put a marker on the drawing of the rectangle you build. Put all of the cubes back in the pile.
- The winner is the first player to have three markers in a row.

Variation:

Player may win by being the first to cover four adjacent rectangles to form a box.

(1.03a)

Keeping Skills Sharp

1. ☐ + 17 = 29 2. ☐ - 9 = 32 3. 76 + 25 = ☐

4. At the movies, Kathy bought a box of popcorn for $3, a soda for $2, a candy bar for $1 and a pack of gum for $1. How much did Kathy have left from $20?

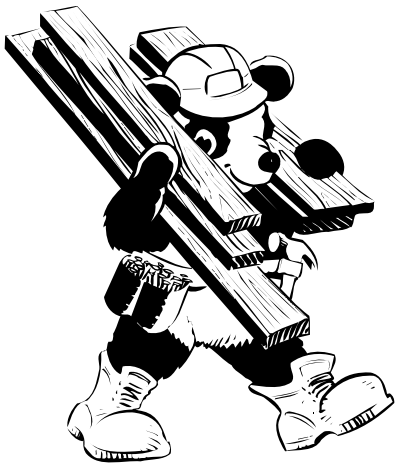
5. Number of inches in 5 feet.

6. The number of sides on five hexagons.

7. 7 hundreds, 14 tens, and 11 ones

8. Juan had $4 in his pocket. He plans to buy notebook paper that costs 95¢, a pen for 85¢, and two pencils at 25¢ each. How much money will he have after he makes his purchases?

Solve this!



A carpenter builds two kinds of furniture, stools (3 legs) and tables (4 legs). One day she used 37 legs to build furniture. How many tables and how many stools did she build that day?

(1.03a, 1.06, 5.01)

To the Teacher

Grade 3
WEEK 14

Seeing Math:

A	B	C	D

Students should begin to develop an organized approach to solving this type of problem.
Do they see one large rectangle? ABCD
Do they see individual rectangles? A, B, C, D
Do they see combined rectangles? AB, ABC, BC, BCD, CD

Let's Explore:
The following arrays would seat 18 people: 1 x 8, 2 x 7, and 3 x 6.

Let's Find Out:
As students compare graphs, encourage the use of appropriate vocabulary.

Solve This:
Students may use strategies as drawing pictures, using manipulative to solve.
(Ans. 11 stools, 1 table or 7 tables, 3 stools; etc.)

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.

120 + 30	25 - 10 + 30 - 5
Quarters in two dollars	3 thousands and 18 ones
What comes next ... 450, 445, 440, ___?	100 less than 8,769
Ten dimes and two quarters	Number of minutes in an hour

Keeping Skills Sharp

12	60 in.
41	30
101	851
$13	$1.60

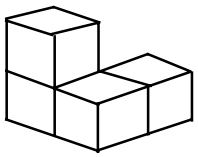
Fun with Multiplication

Use 16 color tiles. Make all the possible rectangles. Draw each rectangle on grid paper. Write a multiplication sentence inside each rectangle.

(1.03a)

Seeing Math

If you paint this figure made of cubes, how many faces will you paint? How many faces will be unpainted?



(1.01c, 1.06)

Writing About Math

Why is it important to be able to tell time?

(2.01a)

Let's Find Out

- Choose a question and survey at least twelve classmates.

1. Which of these pets do you prefer?
   - cat • bird • hamster • dog
2. Which sport do you like best?
   - basketball •swimming
   - soccer • football
3. Which is your favorite fast food restaurant?
   - McDonald's • Burger King
   - Wendy's

- Collect your data and make graphs.
- Did you remember to put a title and labels on your graph

(4.01)

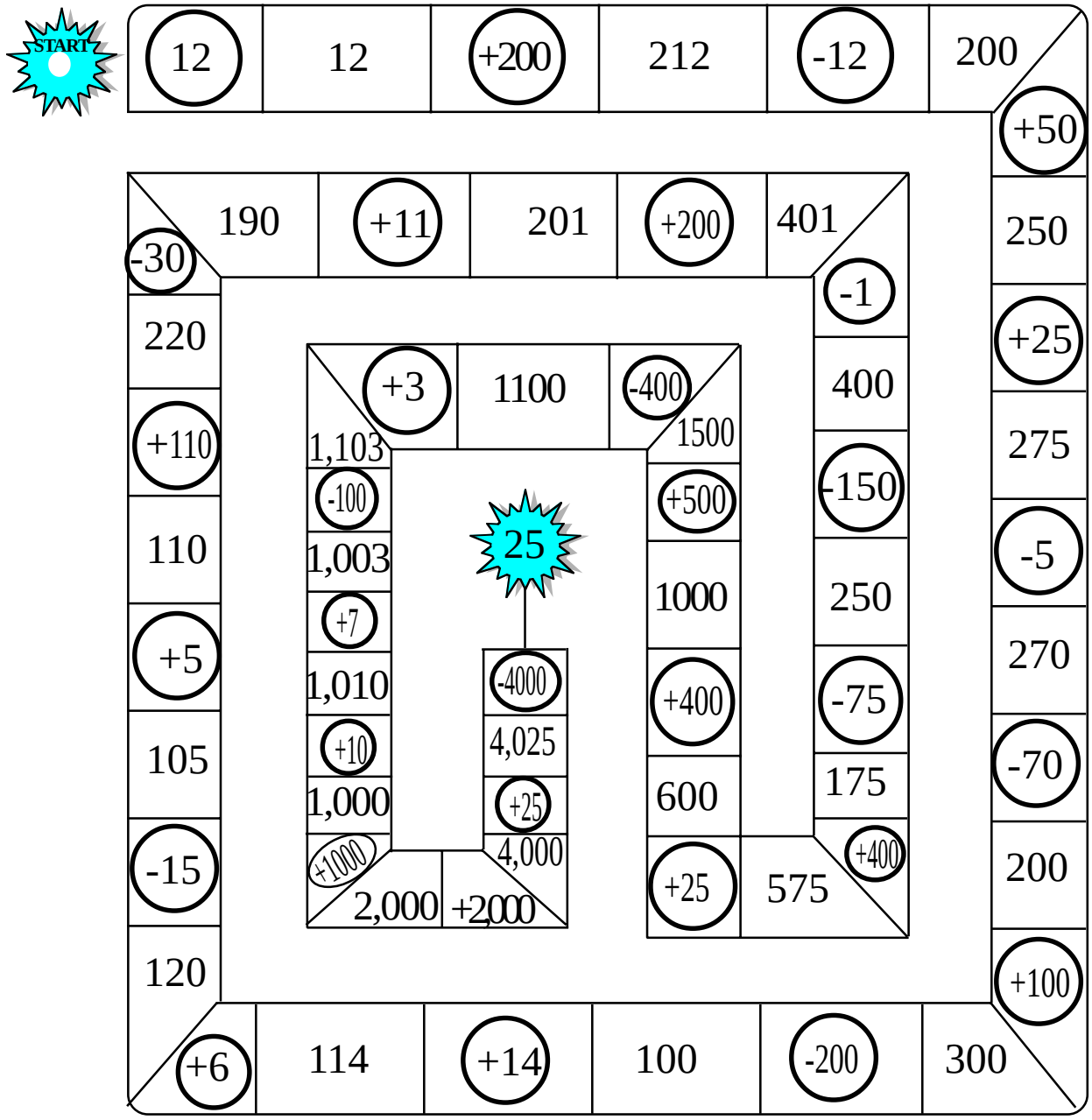
(5.02)

Let's Explore

A chime clock strikes one chime at one o'clock, two chimes at two o'clock, three chimes at three o'clock, and so on.

What is the total number of chimes that the clock will strike in a twelve-hour period?

A-MAZING FUNCTIONS



Players: Two
Materials: Markers, number cubes and counters
Directions:

- Cover each circle with a counter, place all markers on the "start"
- Roll the number cube and move your marker that number of spaces around the maze.
- If you land on a covered space, name the function rule that is covered by the counters. Tell how the number before the covered number becomes the number that comes after the covered number. If you are correct, keep the counter. If you are not correct, return the counter onto the space.
- Winner is the player who has the most counters at the end of the game.

(1.02c)

Keeping Skills Sharp

1. 317 + 254 = 2. 714 - 228 = 3. 38 + 284 =

4. If you want to buy popcorn that is 75¢ a bag and you have three quarters and four dimes, how much more money do you need to buy two bags?

5. What time was it 20 minutes ago? 

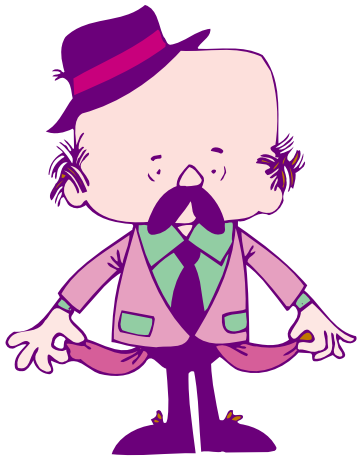
6. Three hours and ten minutes after 6:30 would be what time?

7. Write 7,326 in expanded form.

8. Emmy collected 49 colored marbles and Ben collected 32 colored marbles. Together they have 9 more than Tom. How many does Tom have?

.

Solve this!



Ryan had 35 in dimes in his pocket. A half hour later, Ryan arrived at the store and realized he had a hole in his pocket. If three dimes dropped through the hole in his pocket every five minutes, how much money did Ryan have left?

(5.01, 2.01a)

To the Teacher

Grade 3
WEEK 15

Fun with Multiplication:
Blackline is available for centimeter grid paper. Use the word "array" to describe the rectangles.

Seeing Math:
Students may need to build this figure with blocks in order to see and count all faces. A discussion may arise as to whether or not to count the faces on the bottom. (Answer: 18 including bottom; 15 excluding bottom).

Let's Explore:
Answer: 78 chimes

Solve This:
Answer: 17 dimes or $1.70 left

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.

140 - 25	100 + 50 - 20
Number of seconds in half a minute	142 ones and 2 tens
What comes next ... 565, 560, 555,___?	10 less than 105
What comes next ... 9, 12, 15, 18, ___?	number of minutes in two hours

Keeping Skills Sharp

571	5:55 or 5 to 6
486	9:40
322	7000 + 300 + 20 + 6
35¢	72

Fun with Multiplication

What is the double of each of the following numbers?

125	200
250	350
500	1,000

(1.03a)

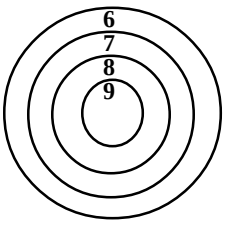
Writing About Math

Make a list of your favorite TV shows and the length of time of each. If you watched all of these shows in one week, how much time did you spend watching T.V.?

(2.01a)

Let's Explore

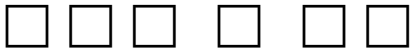
Five darts were thrown at the target and it was hit each time. One number was hit twice and another was hit three times. The total score was 41. Which numbers were hit? What scores other than 41 are possible?

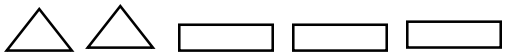


(1.03a, 1.06))

Seeing Math

Name the polyhedron for each set of faces.

A 

B 

C 

(3.01)

Let's Find Out

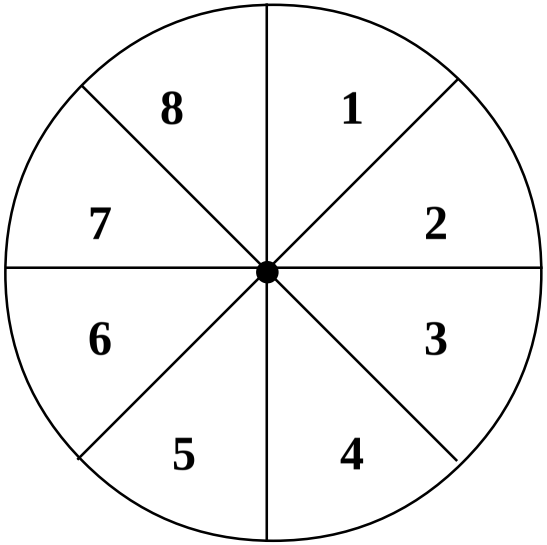
A regular calendar year has 365 days. January 1 is the first day and December 31 is the 365th day. On what number day of the year does your birthday occur?

Were more students in your class born in the first half or the second half of the year?

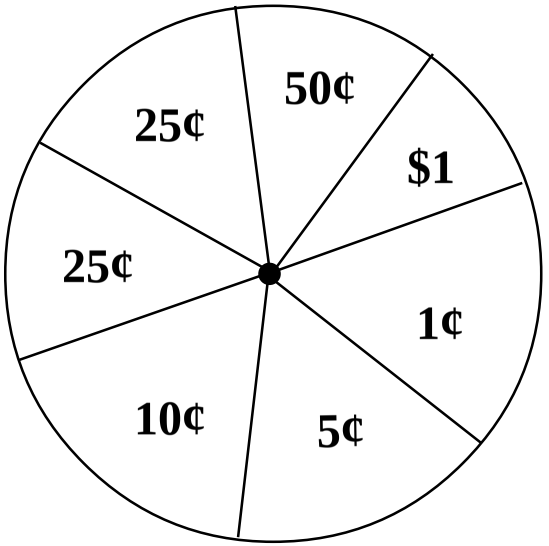
(1.06)

MONEY WHEEL

How Many?



Which Amount?

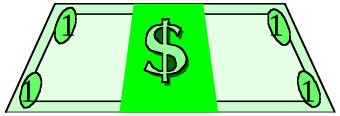


Players: Two - four

Materials: Pencils, paper clips for spinners, recording sheet (Blackline Master Week Sixteen)

Directions:

- In turn each players spins the “How Many” spinner and the “Which Coin” spinner
- Record after each spin.
- After each player has five turns, total the value.
- Winner has the greatest value.



(1.03a)

Keeping Skills Sharp

1. 328 + ☐ = 432
2. 507 - 128 = ☐
3. 53 + 29 = ☐

4. Mrs. Rhodes bought three boxes of popsicles for her class at $2 a box. She paid with a $10 bill. How much change did she get back?

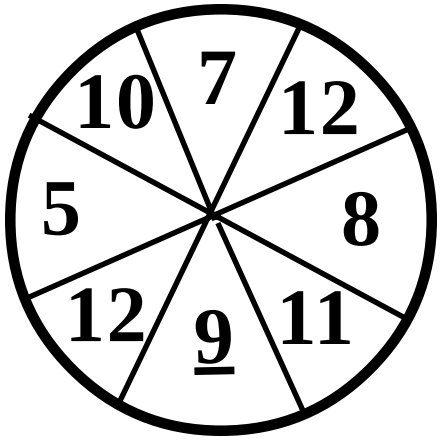
5. 2 quarters, 3 dimes, 4 nickels and 6 pennies.

6. How many sides would five triangles have all together?

7. 4 thousands, 2 hundreds, 0 tens and 9 ones.

8. Lamont walked 4 miles on Sunday, 2 miles on Monday and 3 miles on Tuesday. Wednesday, he walked twice as many miles as he did on Monday. How many miles did he walk in all four days?

Solve this!



Spin the wheel twice and use the numbers to answer these questions.

1. What is the product?

2. What is the sum?

3. What is the difference between the product and the sum?

What is the largest number you can get for #3?

(1.03a, 1.01c)

To the Teacher

Grade 3
WEEK 16

Seeing Math:
A. cube B. triangular prism C. square based pyramid
Have children trace around boxes or use nets in the blackline masters to build polyhedra.

Let's Explore:
Answer: 7 twice and 9 three times. Encourage students to explore scores other than 41.

Let's Find Out:
Calendars and calculators should be available. Engage students in a discussion to brainstorm ways to solve the problem. Students may figure out which day is half way and group themselves accordingly.

Solve This:
The largest is 144 -24 = 120.

Suggested Literature:
The Three Hat Day by L. Geringer

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.

429 - 100	8 x 2 - 4 + 3
Number of sides on 8 pentagons	20 tens and 30 ones
What comes next ... 6, 12, 18, __ ?	10 less than 2300
45 minutes after 4:30	Number of days in January

Keeping Skills Sharp

104	$1.06
379	15
82	4,209
$4	13 miles