Math Trivia

Your body contains 8 pints of blood. About 400 gallons of blood flow through your kidneys each day. This blood travels about 61,320 miles in a year. The average person's heart beats 103,680 times a day.

Using Numbers in Powerful Ways

(5.01)

With a partner and a set of two number cubes, play a sum game. One person will need to be ODD sums and the other person needs to be EVEN sums.

Roll the cubes. Every time an even sum is rolled (example 2 and 4, the sum is 6) the even person receives a point. With each odd sum the odd person receives a point. The first person to reach 10 points wins the game. Play several times. Is this a fair game? What if you multiplied the numbers on the cubes? Would you want to be even or odd? Explain why.

Investigations

There are 300 mailboxes in the post office. They are numbered consecutively from 1 to 300. Every fifth mailbox must be opened with a key instead of using a combination. Every sixth box has a window and every eighth box is oversized. Which dormitory mailboxes meet all three criteria - oversized, with a window, and have a key lock? Explain how you determined your answer.

(1.03)

Fraction Fun

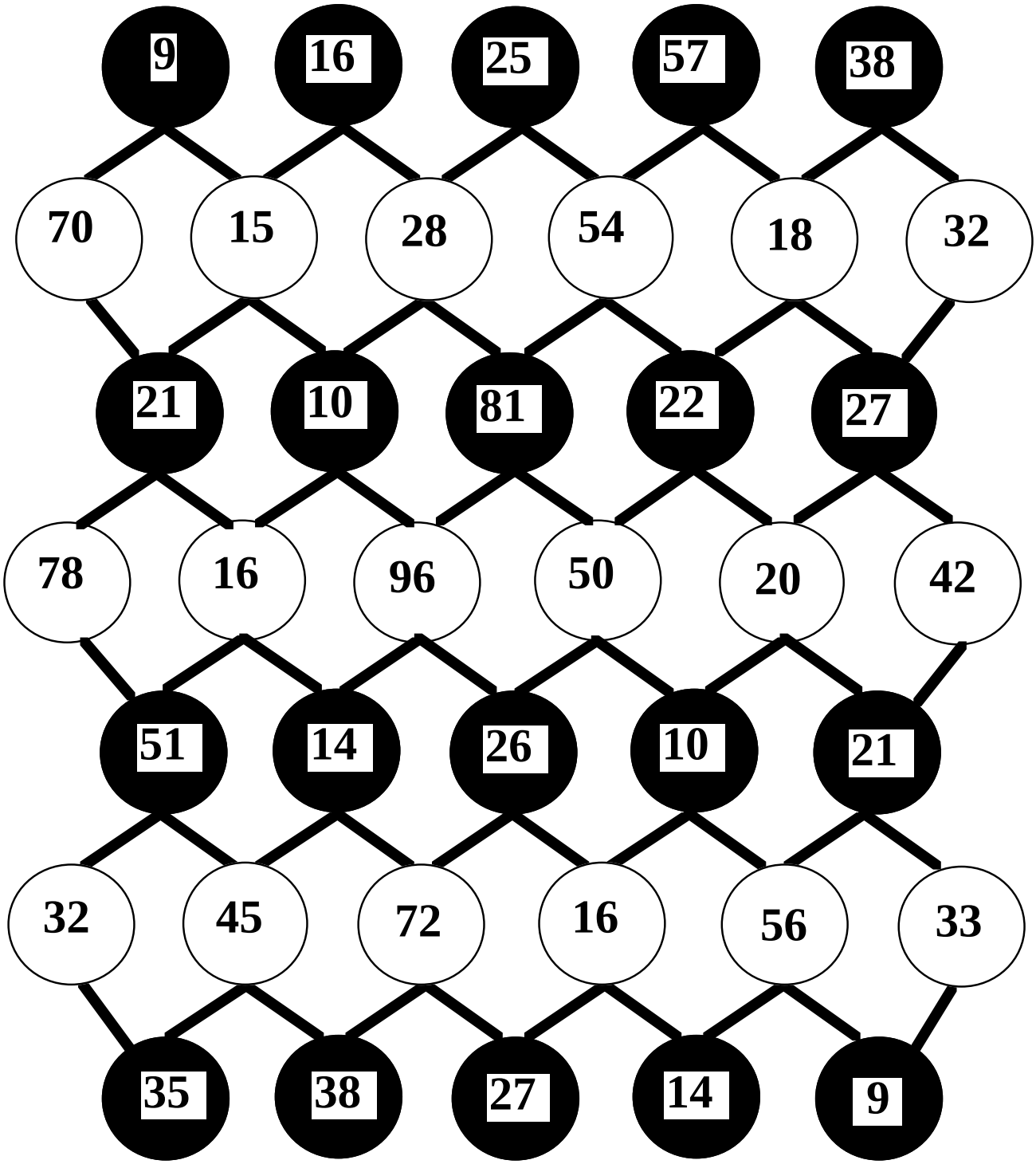
Sam Squirrel gathered half the nuts for winter in July, one fourth in August, one-eighth in September. In October he gathered the last 25 nuts. How many did he gather in all?

(1.02, 5.02)

For Further Study

About how many pints of blood flow through your kidneys each week? By your next birthday, about how many miles will your blood have traveled? About how many yards would that be? About how many times has your heart beat in the last year?

No Remainder Maze



Rules: Players(two) start at opposite ends of the gameboard and move their markers according to the roll of a number cube. On the first roll a player may move to any space in the first row. Subsequent moves to the next row are possible only if the number rolled will evenly divide the number moved to. If no move is possible play goes to the next player.

(1.03)

Keeping Skills Sharp

1. 12,864 has how many hundreds?

2. Thomas Jefferson wrote the Declaration of Independence in 1776. He died fifty years later. In what year did he die?

3. How many minutes are in 2 hours 10 minutes?

4. Sara bought a pound of hamburger for $2.39 and a bag of potatoes for $1.79. How much did she spend?

5. 18,116 - 304.6 = C C = ?

6. 24.6 - B = 18.2 B = ?

7. (1 x 1000) + (1 x 1)

8. Mr. Judd made 8 trips to New York City this year. It is a 1,016 mile round trip flight. How many miles did he fly?

Solve this!

How far could you walk if you walked a million paces? Would it be around the school a few times? Or could you walk to another town? to another state? Which ones?

Find the average fifth grader's pace and you are on your way. Have each group of students work to find a strategy to answer these questions.

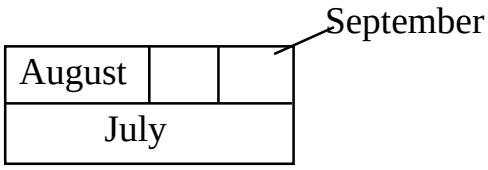
(1.03)

To the Teacher

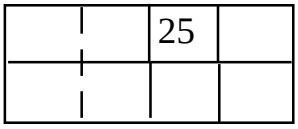
Grade 5
WEEK 34

FRACTION FUN: Teachers may wish to use this problem to illustrate a geometric solution. A rectangle can represent the nuts needed for the winter.

Half can be labeled July, one-quarter for August and half of that quarter (one-eighth) labeled September.



Now the remaining section labeled 25 allows the student to work backward to arrive at the total: 200!



Mental Math

Directions to Students: Number your paper from 1 to 10. Write your answers as the questions are called out. Each question will be repeated only once.

1. 73 - 23 ÷ 10 x 7
2. 1/4 + 2/4 + 5
3. Write in mixed number and decimal form: 8/3
4. Is 4/7 closer to 1/2 or 1?
5. Smallest multiple of 8 and 12
6. Name of a 150° angle
7. Millimeters in 2 meters
8. Feet in 3 1/3 yards
9. 9 quarters, 2 nickels
10. 3 weeks after the 5th of the month

Keeping Skills Sharp

1. 128
2. 1826
3. 130 minutes.
4. $ 4.18
5. C = 17,811.4
6. B = 6.4
7. 1,001
8. 8,128 miles

Math Trivia

Highest point on land is Mount Everest (29,028' above sea level); lowest point is the Dead Sea (water level is 1,302' below sea level). Highest navigable lake is Lake Titicaca in Peru elevation (12,506' Deepest ocean is Pacific (average depth 14,000 feet); largest continent is Asia (17,300,000 square miles). Smallest continent is Australia (2,966,000 square miles).

Using Numbers in Powerful Ways

Replace each symbol with the same digit to solve these division problems.

```
      9 7
   ---------
6 ) A 8 3
    A B
    ---
      B 3
      B 2
      ---
        1
```

```
        3 C 3
   -----------
C 3 ) 7 D D 0
      6 9
      ---
        5 D
        D 6
        ---
          8 0
          6 9
          ---
          1 1
```

A = ?
B = ?
C = ?
D = ?

(1.03)

Investigations

Here are some more alphanumerics?

Each letter stands for a different number. There are four possible solutions.

```
  S A V E
+ M O R E
---------
M O N E Y
```

Make up a puzzle of your own. One group of 5th graders made up the following. . .

```
  D U M B
+ D U M B
---------
S M A R T
```

Can you figure out how to make two wrongs equal a right?

```
  W R O N G
+ W R O N G
-----------
  R I G H T
```

(1.03)

Fraction Fun

One fourth of a betty equals three-fifths of a getty. A half of a jetty is equal to two-thirds of a betty. List the betty, getty and jetty in order from least to greatest.

(1.01c)

For Further Study

A box has 2 white marbles and 6 black marbles. To be sure of getting a black marble, how many marbles (without looking) will you have to take out?

(1.03)

Geometry

I HAVE	WHO HAS
Acute Angle	an angle whose measure is greater than 0^o and less than 90^o
4	the number of angles in a rectangle
hemisphere	half a sphere
60^o	the measure of any angle of an equilateral triangle
vertex 	the point that two or more rays, sides or edges have in common
360	the number of degrees in a circle
trapezoid 	a four-sided polygon with exactly one pair of parallel lines
90^o	the measure of a right angle
square 	a four-sided polygon that has four right angles and four sides that are the same length
10	the number of sides a decagon has
ray	part of a straight line with an end point
right triangle 	a triangle that has one right angle
protractor	a tool used to measure angles
perpendicular lines 	two lines that intersect at right angles to each other
perimeter	the sum of the lengths of the sides of a polygon
angle	two rays having a common end point
circumference	the distance around a circle
line segment	two points on a line and all the points between them
obtuse angle	an angle whose degree measure is greater than 90^o and less than 180^o
octagon	an eight-sided polygon
parallel lines	two lines which lie in the same plane and do not intersect
plane	a flat surface
equilateral triangle	a triangle with 3 lines of symmetry
parallelogram	a quadrilateral with its opposite sides parallel
isosceles triangle	a triangle with one line of symmetry
pentagon	a five sided polygon
congruent angles	two angles having the same measure
degrees	the unit for measuring angles
scalene triangle	a triangle with no lines of symmetry
rectangle	a parallelogram with 4 right angles
geometry	the study of space and shapes

Developed by Barbara Baker, Hazelwood Elementary School

Keeping Skills Sharp

1. If it is now 12:17 p.m. What time was it 45 minutes ago?

2. What number is even, a divisor of 28, a multiple of 7, greater than 7 but less than 15?

3. Which has the greater difference:

3842	4003
-1065	-2197

4. Order from least to greatest: 8.99 89.3 8.39 89.9

5. What is 21.6 less than 30.05?

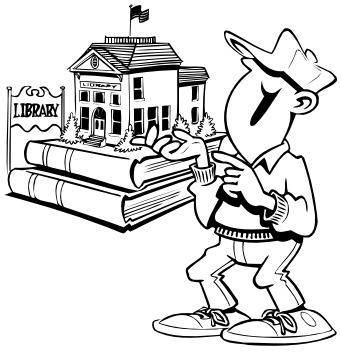
6. 1278 ÷ 60

7. 89,241 x 10 = n n = ?

8. Amanda made punch for a party. She used one-fourth cup of cranberry juice, five and three-fourths cups of orange juice, two and a half cups of apple juice, and nine-fourths cups of water. How many cups of punch did she have?

Solve this!

Kameron needs to read a book with 270 pages, If one-sixth of the pages are full of pictures, how many pages should he read each day if he has to finish in nine days?



(1.03, 5.02)

To the Teacher

Grade 5 WEEK 35

USING NUMBERS IN POWERFUL WAYS:
A = 5; B = 4; C = 2; D = 4

As an extra challenge,have students try this puzzle.

```
      R 6
    ------
7 W ) 6 3 R R
      5 9 2
      -----
        W 6  R
        W W W
        -----
            2 W
```

R = 8; W = 4

FOR FURTHER STUDY:
1/4 + 1/4 = 2/4 1/2
1/4 x 1/4 = 1/16

Mental Math

Directions to Students: Number your paper from 1 to 10. Write your answers as the questions are called out. Each question will be repeated only once.

1. $5^2 + 5 \div 5 - 5$
2. 7 + 3/8 + 5/8
3. Write in fraction form 61.92
4. Round to nearest whole number: 8 5/9
5. Definition of prime number
6. Sum of the interior angles in a square
7. Kilometers in 1,500 meters
8. Yards in one mile
9. Months in 5 1/2 years
10. Which is longer, one mile or one kilometer?

Keeping Skills Sharp

1. 11:32 a.m.
2. 14
3. 3842 - 1065
4. 8.39, 8.99, 89.3, 89.9
5. 8.45
6. 21 r 18 or 21 18/60 or 21 3/10
7. 892,410
8. 10 3/4 cups

Math Trivia

Interstate highways are numbered with blue signs with red tops. North-South highways have odd numbers with 1 or 2 digits, usually including a 5. The lowest numbers are on the West Coast and increase as they move East. East-west highways have even numbers with 1- or 2- digits. The lowest numbers are in the South and increase as they go North. Interstate highways with 3-digit numbers are connectors or offshoots of main routes..

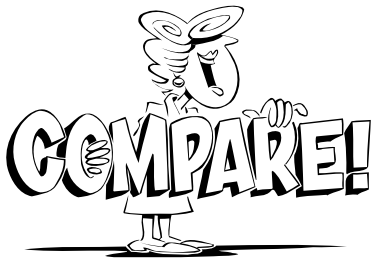
Using Numbers in Powerful Ways

Jack spent $8.00 on two rolls of films. One roll cost $1.00 more than the other. How much did each roll of film cost?

(1.03)

Investigations

Using the "Spots Before Your Eyes" sheet, figure out the number of dots without counting. Describe the process you used in your math journal and compare your answer with others.



Try to find several different strategies to use. Which do you think is the best strategy?

(1.03, 5.01)

Fraction Fun

Take half of “this” and add one more, then triple that and add on four. The result you’ll get by adding “this” to 23.

What is “this”?

(1.03, 5.02)

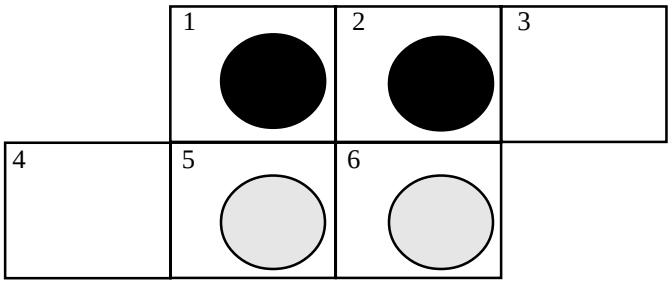
For Further Study

Name three U. S. highways that run from coast to coast. Name seven highways that run from border to border.

(1.03)

Some **GAMES** for the summer.

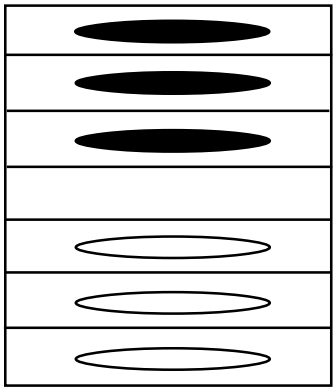
The dark counters need to exchange places with the light ones. They can move one space horizontally, vertically, or diagonally. Only one counter can be in a space. What is the fewest number of moves? ***Challenge:*** Do not go outside the boxes.



Design a gameboard that has each player move 12 spaces from the start to the winning point. Add these directions to your board:

1. Players roll 2 number cubes simultaneously and make a fraction with the numbers rolled. (Smaller number is numerator.)
2. Determine whose fraction is larger by getting a common denominator or creating a model.
3. Player with larger fraction moves a space. In case of ties, both players move 1 space.
4. Winner is the first to reach the end.

In this game black pieces change places with white ones.



Rules:

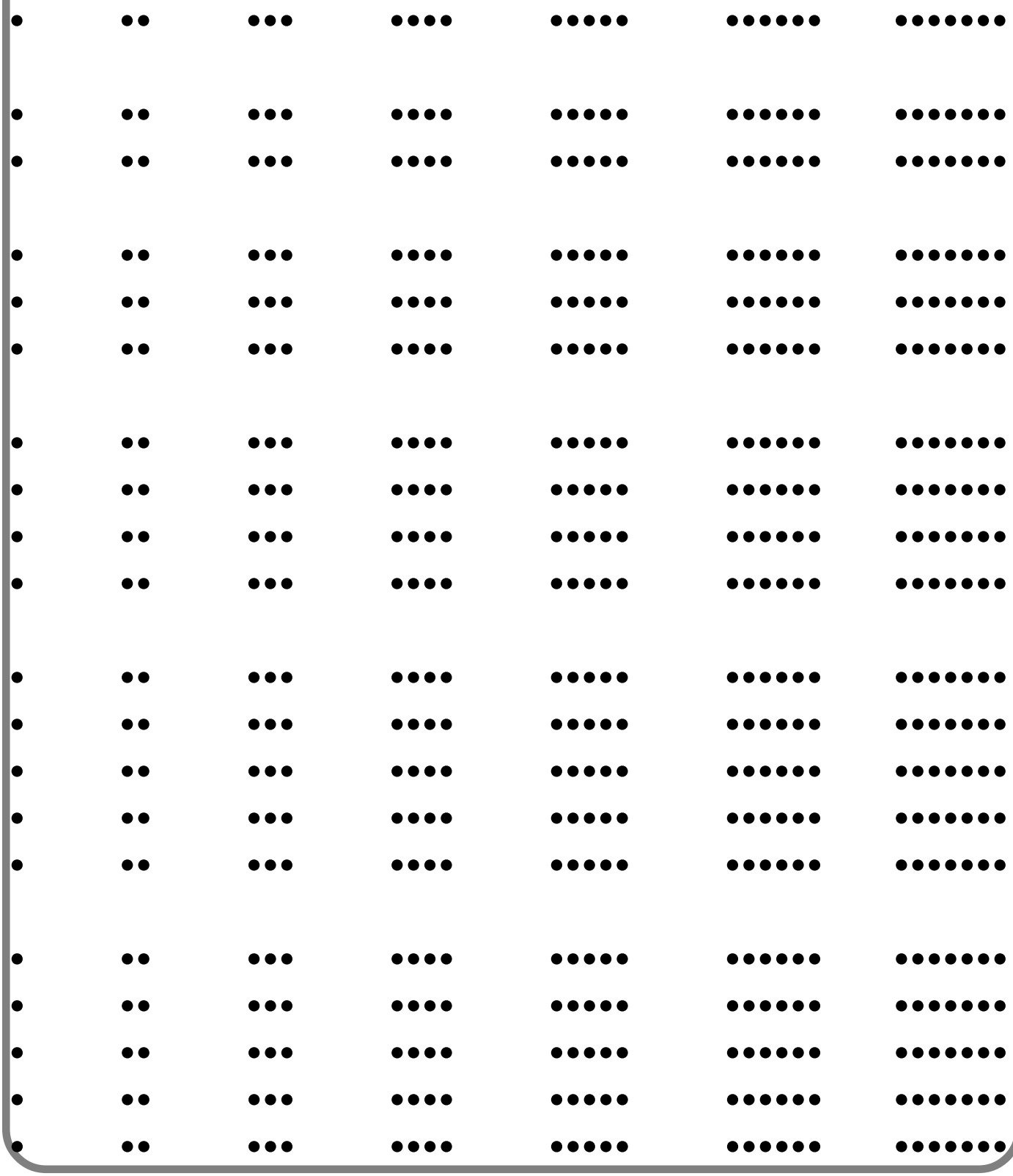
•Pieces of the same color cannot jump each other.

•A piece moves one space or jumps one marker at a time.

What is the fewest number of moves required to change places with all six pieces?

Spots Before Your Eyes

Directions: Find the total number of dots without counting. Patterns will help!



Keeping Skills Sharp

1. Find the area in square feet.

2. Order these from least to greatest: 4.26 24.6 0.06 2.64

3. Brenda likes lasagna better then pizza. She likes Chinese food better than lasagna. Of these foods, which is her favorite?

4. Which is a better buy? 3 pounds for $7.83 or 4 pounds for $9.76?

5. How may 30's are in 600?

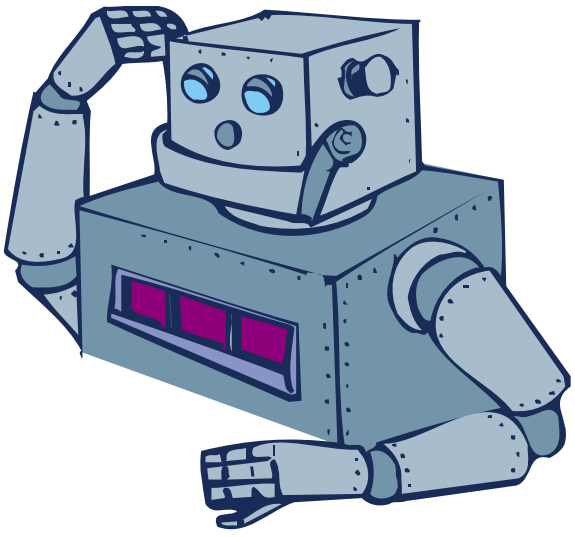
6. 500.4 less 29.85

7. Which is more? 0.607 or 0.67

8. May and Lori shared a babysitting job. May sat from 6:30 p.m. to 8:15 p.m. and Lori from 8:15 p.m. to 10:30 p.m. Who sat longer and how much longer?

Solve this!

Suppose your baby sister is born at 12 noon and you call two friends. In 10 minutes, they each call 2 friends to tell the news. In 10 minutes, these friends call 2 others each. This continues all afternoon. How many people will know by 4:00 p.m.?



(1.03)

To the Teacher

Grade 5 WEEK 36

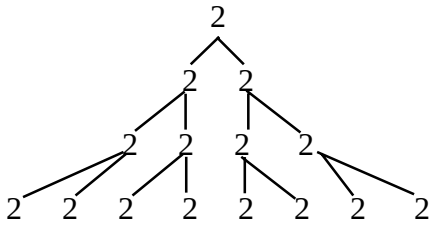
For Further Study :
Three highways run from coast to coast: I-10, I-80, I-90
Seven highways run from border to border: I-5, I-15, I-35, I-55, I-65, I-75, and I-95
Coast to coast would be west to east and border to border would be north to south

Using Numbers in Powerful Ways:
$3.50 and $4.50

12:00 -4:00 is 4 hours. There are 24 segments of 10 minutes in 4 hours. If the students begin a chart, they should determine the pattern.

Example

# of people to tell	# of people told
1	2
2	4
4	8
8	16
16	32
etc.	



$2^1 = 2$
$2^2 = 4$
$2^3 = 8$
$2^4 = 16$

Solve This: 16,777,216 people = 2^{24}

Fraction Fun: "this' is 32! Happy Summer!!

Mental Math

Directions to Students: Number your paper from 1 to 10. Write your answers as the questions are called out. Each question will be repeated only once.

1. 9 x 9 + 9 ÷ 9 - 9 + 1/9
2. 100^2 - 5 + 6 ÷ 9
3. Write in fraction and word form 28.003
4. Estimate sum: 3.7 + 5.2 + 8.29
5. Smallest multiple of 2, 6, and 9
6. Number of lines of symmetry in a scalene triangle
7. Centimeters in one kilometer
8. Feet in one mile
9. Days in 10 years
10. Which is longer, a mile or a kilometer?

Keeping Skills Sharp

1. 12 $feet^2$
2. 0.06, 2.64, 4.26, 24.6
3. Chinese
4. 4 for $ 9.76
5. 20
6. 470.55
7. 0.67
8. Lori by 30 minutes

Correlation of Week-by-Weeks with Grade 5 Objectives

	Number and Operations	Measurement	Geometry	DataAnalysis & Probability	Algebra
1st Quarter	1.01, 1.03			4.01	
2nd Quarter	1.02, 1.03	2.02	3.01, 3.02, 3.04		5.01
3rd Quarter	1.02, 1.03	2.01	3.03	4.02, 4.03	5.02, 5.03
4th Quarter	1.03		3.04	4.03	5.01