Amazing Math
Puzzles & Mazes

By Cindi Mitchell

Grades 6–8

Dedication

I would like to dedicate this book to my computer-wizard son, Ben Mitchell, who is my constant source of love and encouragement and always manages to fix any computer problem I throw his way!

Table of Contents

Introduction

This book is filled with all types of puzzles to provide your students with hours of entertainment and fun while they learn and practice basic math skills. You'll find mazes, crossword puzzles, word searches, riddle searches, magic squares, and more. As an added bonus, your students will sharpen their reasoning skills and problem-solving abilities as they puzzle over these pages.

How to Use This Book

Each puzzle is designed to reinforce a basic math skill. At the top of each page, you will see the skill in bold letters. The Table of Contents also has a complete list of topics to enable you to identify the activities that will correlate with your curriculum easily.

Grouping

Students can complete all of these activities alone or with a partner, depending on your goals for the lesson. If you would like students to share problem-solving strategies and communicate about mathematical ideas, have them work in pairs. You may want students to use the activities independently after they have completed other work or to reinforce specific mathematical skills.

Materials Needed

All of the activities require paper, pencil, and an eraser. Brain Rattler (page 38) requires glue and scissors. We recommend that students use a calculator on Exponent Experts Only (page 16), Galactic Math (page 40), and Computer Glitch (page 43).

Taking It Further

Students not only enjoy solving mathematics puzzles; they enjoy and benefit from making them, too. After your students have completed several activities of one puzzle type, give them the opportunity to create their own puzzles based on familiar formats. Choose several student-made puzzles to copy, and distribute them for the other students to solve.

My students enjoyed making puzzles so much that we extended the idea even further: We had a Math Puzzle Afternoon for which each student created a puzzle. We made ten copies of each student's puzzle and placed the puzzles in stacks around the room. The students spent the afternoon going from one desk to another solving puzzles and enjoying math created by their classmates.

Answers

You will find the answers for each lesson at the end of the book.

I hope that after using these materials, your students will enjoy solving, making, and sharing puzzles as much as mine did. Enjoy!

Cindi Mitchell

Name _____   **Date** _____

All Mixed Up

Finding the sums is easy. But when you try to put these numbers correctly in the puzzle, you'll find yourself all mixed up!
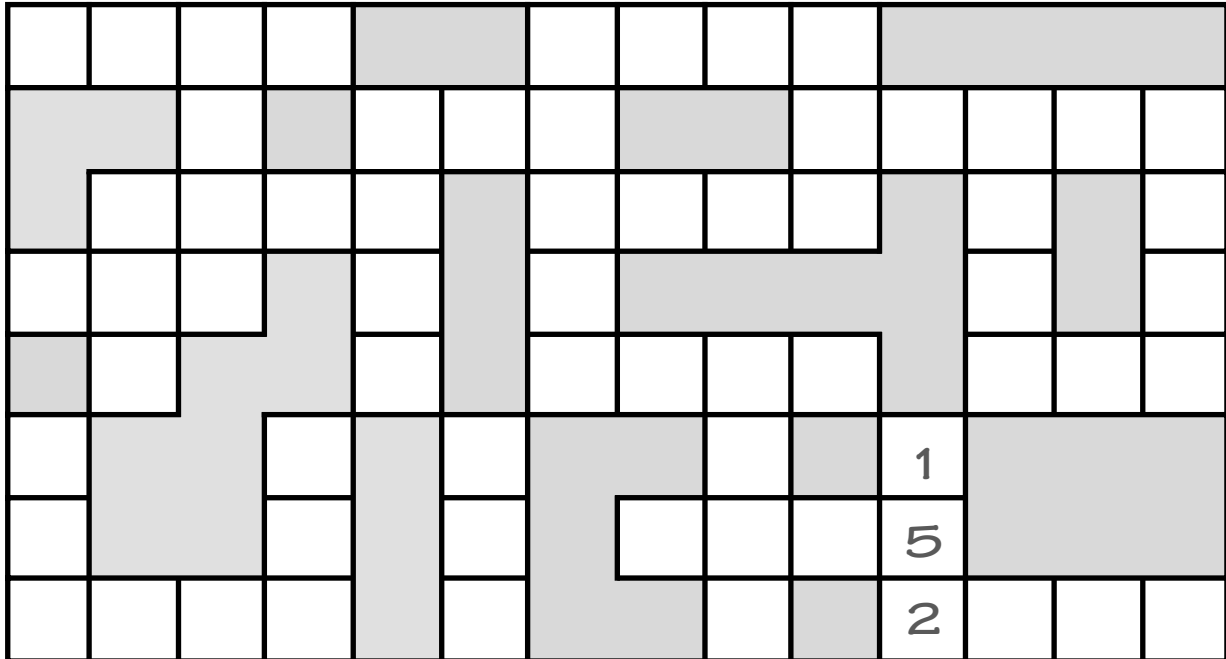
Find the sum and write the answer in the puzzle. Each digit can occupy only one place to make the whole puzzle fit together perfectly. The first one has been done for you.

54	69	31	292	589	261
+ 98	+ 37	+ 85	+ 614	+ 92	+ 97
152					

423	180	349	2,012	413	855
+ 79	+ 98	+ 301	+ 2,106	+ 923	+ 723

1,617	4,068	1,602	5,142	1,069	1,597
+ 1,281	+ 784	+ 639	+ 2,690	+ 1,103	+ 346

4,115	1,022	951	12,401	44,595	5,354
+ 106	+ 1,886	+ 1,384	+ 6,001	+ 13,816	+ 1,346

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Name _____ **Date** _____

Crisscross Number Puzzles

Solve the subtraction problems. Each of the eight 4-digit answers fits into the puzzle below. One digit must be placed in each box to form a 4-digit number in each row (from left to right) and each column (from top to bottom). The clues will help you decide where to place the numbers.

1) 30,771 − 29,419	2) 16,570 − 13,292	3) 70,610 − 62,410	4) 49,905 − 47,559
5) 11,852 − 8,402	6) 19,439 − 9,829	7) 12,555 − 5,004	8) 11,593 − 8,454

A   B   C   D

E
F
G
H

Clues

A. All of the digits are odd.
B. The first digit is even and less than 5.
C. The second and third digits are equal.
D. The sum of the digits is 10.
E. The last digit is 8.
F. The first digit is 1.
G. The sum of the digits is 12.
H. The number is even and greater than 9,000.

Follow the same instructions for this puzzle. Be careful—it has only three clues.

9) 34,259 − 24,941	10) 15,031 − 11,390	11) 10,014 − 2,519	12) 9,856 − 7,683
13) 15,342 − 9,711	14) 11,916 − 2,344	15) 7,378 − 5,981	16) 16,866 − 8,713

A   B   C   D

E
F
G
H

Clues

A. The sum of the digits is 23.
E. The number is divisible by 3.
G. The number is divisible by 5.

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Name _____ **Date** _____

Fun Times

Do the multiplication problems at the bottom of the page, and place the answers in the crossword puzzle.

Across

A.	24	X	16 =	_____
B.	410	X	103 =	_____
D.	392	X	145 =	_____
F	997	X	817 =	_____
H.	1,157	X	102 =	_____
J.	1,168	X	455 =	_____

Down

A.	375	X	86 =	_____
B.	418	X	119 =	_____
C.	342	X	102 =	_____
E	1,056	X	467 =	_____
G.	1,122	X	507 =	_____
I.	1,194	X	365 =	_____

By the way, do you know why the person who made this puzzle got fired from her job?

Too many cross words!

7

Name _____ **Date** _____

Professor Dee Vision's Famous Crossword

Do the division problems at the bottom of the page, and place the answers in the crossword puzzle.

Across

A. $28{,}060 \div 46 =$ _____

B. $12{,}644 \div 29 =$ _____

D. $27{,}126 \div 33 =$ _____

F. $12{,}499 \div 29 =$ _____

H. $75{,}502 \div 14 =$ _____

J. $32{,}650 \div 25 =$ _____

K. $79{,}128 \div 18 =$ _____

Down

A. $15{,}824 \div 23 =$ _____

B. $31{,}552 \div 64 =$ _____

C. $17{,}775 \div 25 =$ _____

E. $12{,}155 \div 11 =$ _____

G. $81{,}432 \div 27 =$ _____

I. $51{,}728 \div 16 =$ _____

J. $33{,}980 \div 20 =$ _____

Name _____ **Date** _____

What a Card

Make each row of cards equal 8. In each box, place one of the operation signs (+, −, x, or ÷). If necessary, use grouping symbols such as parentheses ( ) and brackets [ ]. The first one has been grouped for you.

$$(6 \times 3) - (2 \times 5) = 8$$

Row 2: 9 ☐ 3 ☐ 5 = 8

Row 3: 9 ☐ 3 ☐ 8 ☐ 4 = 8

Row 4: 5 ☐ 2 ☐ 6 ☐ 9 = 8

Row 5: 8 ☐ 4 ☐ 2 = 8

Name _____   **Date** _____

Ridiculous Riddles

Shade the numbers indicated by place value. The first one has been done to get you started. The shaded blocks will spell the answer to the riddle:
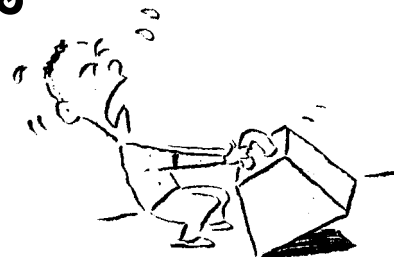
Forward I am heavy, backward I am not. What am I?

ten billions, billions, hundred millions	**2**	**3,**	**7**	**2**	**0,**	**0**	**0**	**0,**	**0**	**0**	**0**
billions	**1**	**9,**	**2**	**2**	**9,**	**0**	**0**	**0,**	**4**	**2**	**3**
billions	**3**	**2,**	**8**	**9**	**0,**	**0**	**0**	**0,**	**0**	**0**	**0**
billions, millions, hundred thousands, ten thousands, hundreds, tens, ones	**1**	**1,**	**0**	**0**	**5,**	**0**	**0**	**0,**	**7**	**0**	**9**
billions, millions, ten thousands, hundreds, ones	**3**	**3,**	**0**	**0**	**2,**	**1**	**1**	**1,**	**9**	**3**	**5**
billions, millions, ten thousands, hundreds, ones	**7**	**0,**	**0**	**0**	**0,**	**0**	**0**	**0,**	**0**	**0**	**0**
billions, millions, ten thousands, hundreds, ones	**4**	**1,**	**8**	**4**	**5,**	**0**	**2**	**2,**	**1**	**0**	**9**
billions, millions, hundred thousands, ten thousands, hundreds, ones	**8**	**0,**	**6**	**5**	**2,**	**2**	**1**	**0,**	**0**	**0**	**0**

Ready to try another one? The shaded blocks will spell the answer to the riddle:

I'm on a needle, in a potato, and stare at you in the mirror. Who am I?

ten billions, billions, hundred millions, millions, ten thousands, hundreds, tens, ones	**9**	**0,**	**0**	**5**	**1,**	**2**	**3**	**0,**	**0**	**3**	**7**
ten billions, millions, ten thousands, hundreds	**2**	**2,**	**1**	**7**	**9,**	**9**	**5**	**2,**	**1**	**0**	**0**
ten billions, millions, ten thousands, hundreds	**7**	**5,**	**5**	**1**	**2,**	**1**	**4**	**5,**	**7**	**5**	**8**
ten billions, billions, hundred millions, millions, hundred thousands, ten thousands, hundreds, tens, ones	**2**	**8,**	**0**	**0**	**0,**	**0**	**0**	**0,**	**0**	**7**	**7**
ten billions, hundred thousands, hundreds	**1**	**1,**	**8**	**3**	**5,**	**4**	**5**	**0,**	**0**	**9**	**0**
ten billions, hundred thousands, hundreds	**2**	**1,**	**2**	**1**	**7,**	**8**	**3**	**5,**	**6**	**5**	**7**
ten billions, billions, hundred millions, hundred thousands, hundreds, tens, ones	**8**	**7,**	**9**	**0**	**0,**	**0**	**9**	**3,**	**2**	**1**	**1**

Name _____   **Date** _____

More Ridiculous Riddles

Shade the numbers indicated by place value. The first one has been done to get you started. The shaded blocks will spell the answer to the riddle:

Can you spell eighty with two letters?

tens, tenths, hundredths, thousandths	5	4	3	.	1	2	7
thousands, tens, tenths	7	1	9	1	.	6	2
hundreds, ones, hundredths	8	4	8	.	2	0	1
thousands, hundreds, tens, tenths	9	0	2	4	.	7	8
hundreds, tens, ones, hundredths	3	2	1	.	1	1	9
ones, tenths, ten thousandths	4	.	5	6	1	0	7
hundreds, ones, hundredths	9	0	6	.	2	5	2
ones, tenths, ten thousandths	3	.	1	9	3	0	1

Ready to try another one? The shaded blocks will spell the answer to the riddle:

Can you spell an insect with one letter?

tenths, hundredths, thousandths, ten thousandths	3	.	7	1	0	6	3
ones, thousandths	1	1	2	.	4	4	6
tenths, hundred thousandths	8	.	7	1	3	9	4
tenths, hundredths, thousandths, ten thousandths	9	.	2	0	0	8	9
hundredths, millionths	.	2	3	1	8	9	2
tenths, hundred thousandths	5	.	0	2	7	9	1
tenths, hundredths, thousandths, ten thousandths	4	.	8	2	0	1	7

Name _____ **Date** _____

Amazing Primes

Find your way through the maze from start to finish without crossing over any composite numbers. You must pass over all 15 prime numbers between 1 and 50 at least once.

Start →

15 19

10

7 41

77 2

21

34 17

47

23

8

74 29

11

95

81 31 3 5

33

37 13

43

12

Name _____ **Date** _____

Pattern Block Maze

If you can find your way through the pattern block maze from start to finish without crossing over any shapes with numbers that are divisible by 2, 3, or 4, you are a superstar. If you find a path where none of the numbers are divisible by 2, 3, or 4 and the sum of the numbers equals 389, you are a genius! A path may be formed by connecting a corner or a side.

Start

103 10 8 90 321 70

345 35 71 5 17 13

37 65 19 99 40 55

107 306 14 345 23 18

102 19 15 31 21 51

45 12 25 88 121 23

58 66 11 94 324 79

Finish

13
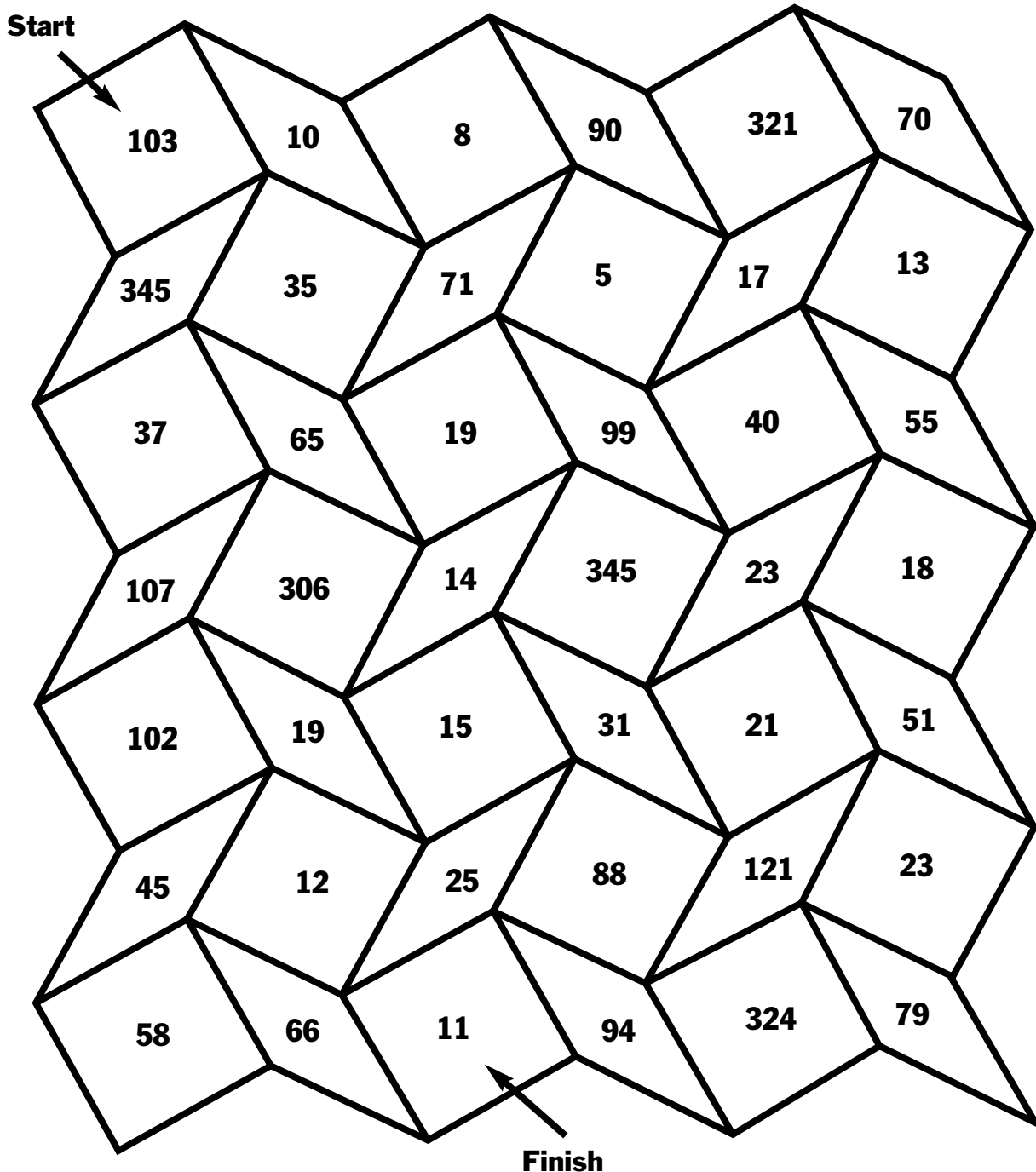
Name _____ **Date** _____

An Amaze-ing Discovery
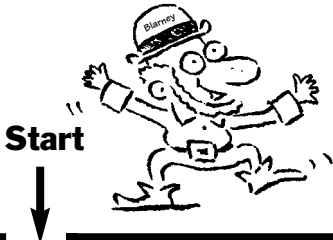
Leaping Leprechauns! There really is a pot of gold at the end of the rainbow. Run through this amaze-ing neighborhood, making sure you never cross over numbers that are divisible by 5 or 9. If you make it from Start to the pot of gold before "Blarney," you will be rich indeed.

Start

105   17

406   119

341   5   89   10   23

212   99   15   234   103

4,968   45   16   991   58   73

16   25   298   12   117

37   14   90

72   534   132

58   38   14

69   45   121   214   108   39   35

27   55

1,221   4

24   501   77   18   31   10   9

Finish

14
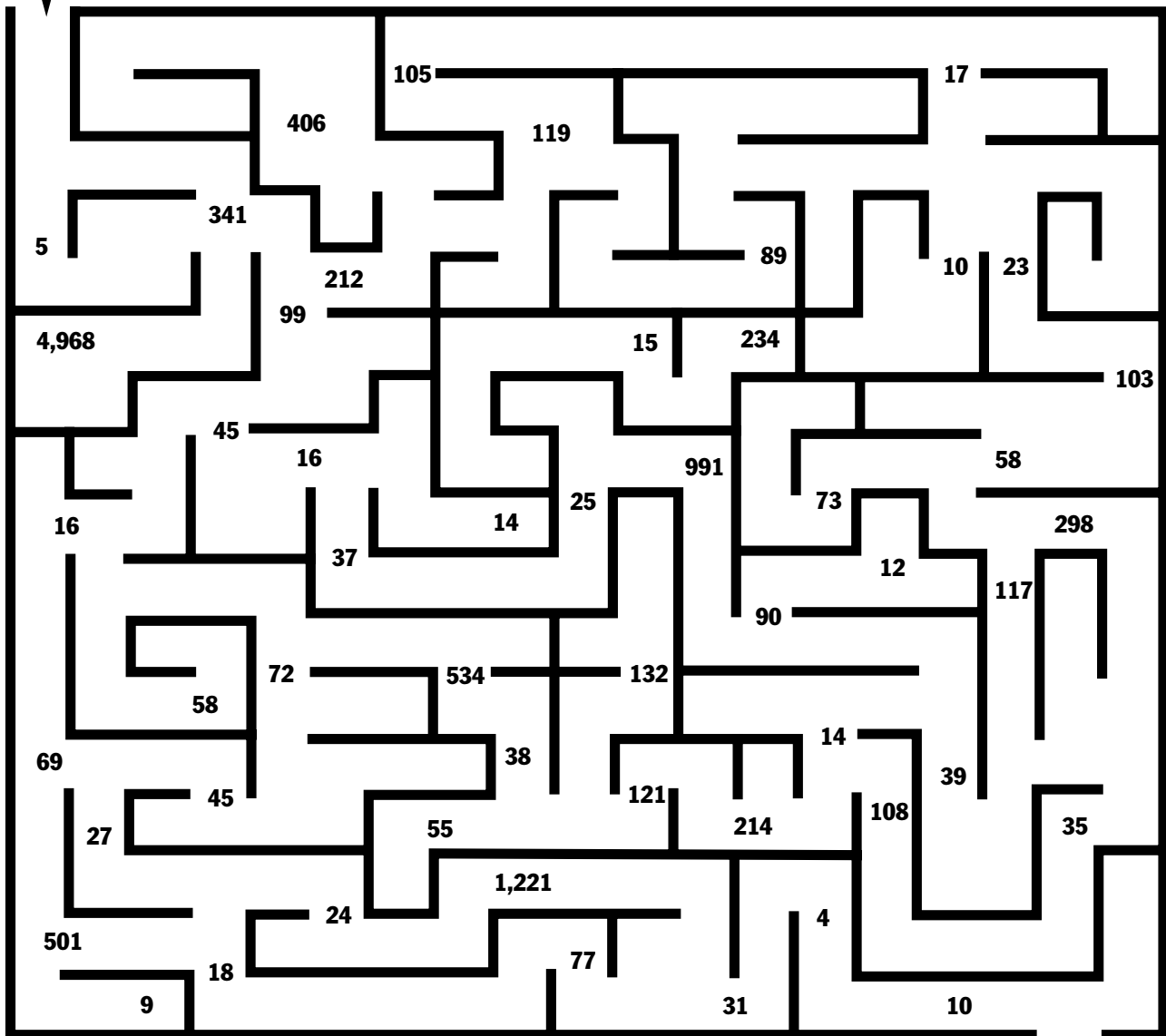
Name _____ Date _____

Maze Craze

Find your way through the maze from start to finish. You may pass only over numbers that are divisible by 6 or 8. Remember, a number is divisible by 6 if it is even and divisible by 3, and a large number is divisible by 8 if the last three digits of the number are divisible by 8.

Start

15   1,200   54

7

36

128

24   212

34   48

21   12   47   240

30

2,888   96   3,000

66

95   31

5   81

37

33

Finish   1,800   3,900   200

15

Name _____ **Date** _____

Exponent Experts Only

If you are experienced at finding exponents, this exercise is for you! Solve the problems, then use the clues in the puzzle to fit your answers in the correct spaces.

2	4	0	1

(puzzle grid with pre-filled clues: 2 4 0 1, 4, 8, 4, 8, 4)

Find the product and write the answer in the puzzle. Each digit can occupy only one place to make the whole puzzle fit together perfectly. The first one has been done for you.

7^4 = _2,401_

3^7 = _____

43^2 = _____

95^2 = _____

33^2 = _____

27^2 = _____

21^2 = _____

11^2 = _____

17^2 = _____

2^7 = _____

18^3 = _____

12^3 = _____

8^4 = _____

4^5 = _____

3^6 = _____

13^3 = _____

3^6 = _____

31^2 = _____

19^3 = _____

69^2 = _____

16

Name _____ **Date** _____

Master Maze

If you're an expert at tunneling through mazes, this master maze is for you. Here's how to begin. Work through the maze and do not cross over your original path. As you pass each fraction, find it in reduced form in the data bank and cross it out. Continue until all of the fractions in the data bank have been located, then exit.

Start

$\frac{4}{52}$

$\frac{15}{27}$

$\frac{2}{20}$

$\frac{6}{9}$

$\frac{12}{44}$

$\frac{5}{35}$ $\frac{6}{52}$

$\frac{18}{63}$

$\frac{12}{15}$

$\frac{12}{14}$

$\frac{12}{48}$

Finish

$\frac{2}{6}$

$\frac{2}{34}$

$\frac{19}{38}$

$\frac{5}{45}$

$\frac{14}{72}$

$\frac{4}{32}$

$\frac{5}{95}$

$\frac{4}{24}$

$\frac{19}{95}$

$\frac{15}{35}$ $\frac{21}{24}$ $\frac{8}{96}$

$\frac{9}{66}$

DATA BANK
· · · · · · · · ·

$\frac{1}{2}$	$\frac{1}{3}$
$\frac{2}{3}$	$\frac{1}{5}$
$\frac{1}{6}$	$\frac{2}{7}$
$\frac{3}{7}$	$\frac{1}{8}$
$\frac{7}{8}$	$\frac{1}{9}$
$\frac{3}{22}$	$\frac{6}{7}$
$\frac{1}{7}$	$\frac{5}{9}$
$\frac{1}{10}$	$\frac{1}{12}$
$\frac{1}{17}$	$\frac{1}{19}$
$\frac{3}{11}$	$\frac{1}{13}$
$\frac{3}{26}$	$\frac{7}{36}$
$\frac{1}{4}$	$\frac{4}{5}$

17

Name _____ **Date** _____

Fraction Flowers

Place one fraction from the box into each flower petal. Every petal should contain a fraction that is equivalent to the fraction in the center of the flower. Be careful, there are three fractions that will not be used.

$\frac{7}{14}$	$\frac{2}{18}$	$\frac{20}{30}$	$\frac{27}{36}$	$\frac{30}{40}$	$\frac{14}{16}$	$\frac{4}{6}$	$\frac{21}{24}$	$\frac{6}{12}$
$\frac{33}{44}$	$\frac{70}{80}$	$\frac{15}{20}$	$\frac{10}{20}$	$\frac{5}{30}$	$\frac{9}{18}$	$\frac{6}{9}$	$\frac{63}{72}$	$\frac{77}{88}$
$\frac{33}{66}$	$\frac{12}{18}$	$\frac{50}{75}$	$\frac{12}{24}$	$\frac{35}{40}$	$\frac{75}{100}$	$\frac{2}{9}$	$\frac{6}{8}$	$\frac{34}{51}$

$\frac{1}{2}$

$\frac{2}{3}$

$\frac{7}{8}$

$\frac{3}{4}$
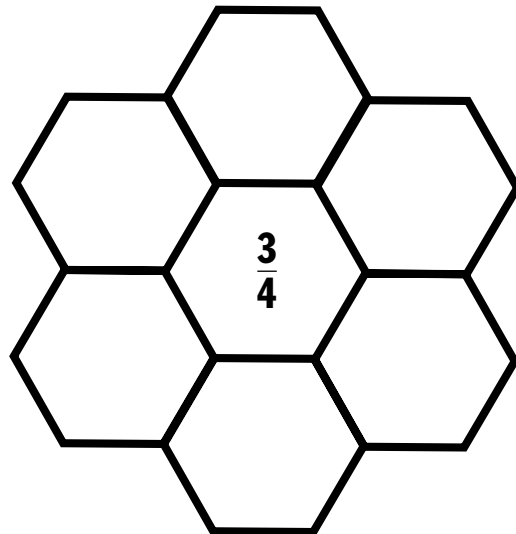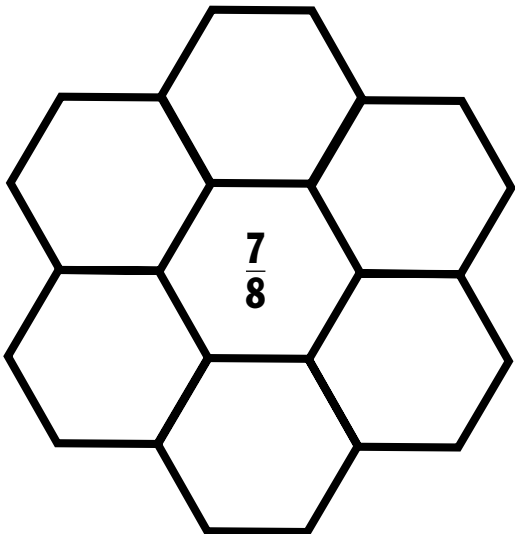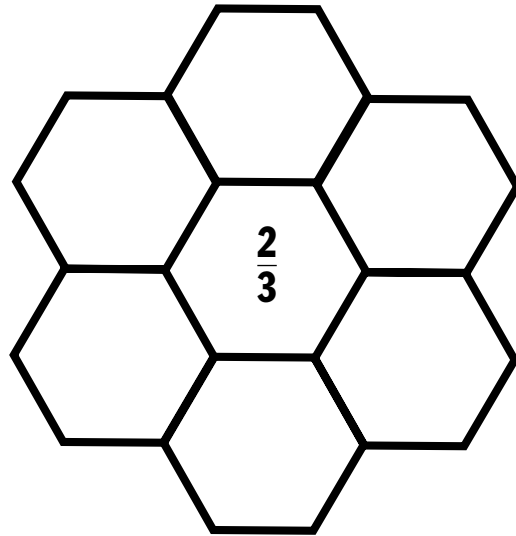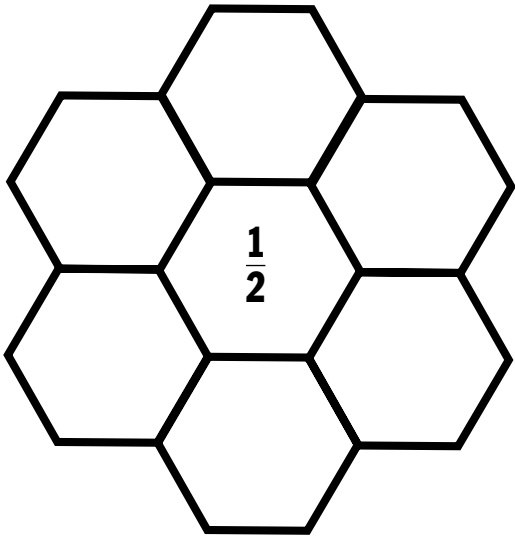
Name _____ **Date** _____

Fraction Puzzler

Place the fractions from the fraction bank inside the eight shapes so that no two adjacent shapes have equivalent fractions. The numerators must increase starting with the star and moving clockwise. Be careful, there are several fractions that will not be used.

FRACTION BANK

· · · · · · · · · · · ·

$\frac{2}{6}$	$\frac{16}{20}$
$\frac{5}{15}$	$\frac{1}{3}$
$\frac{9}{27}$	$\frac{21}{63}$
$\frac{20}{25}$	$\frac{4}{5}$
$\frac{8}{10}$	$\frac{18}{54}$
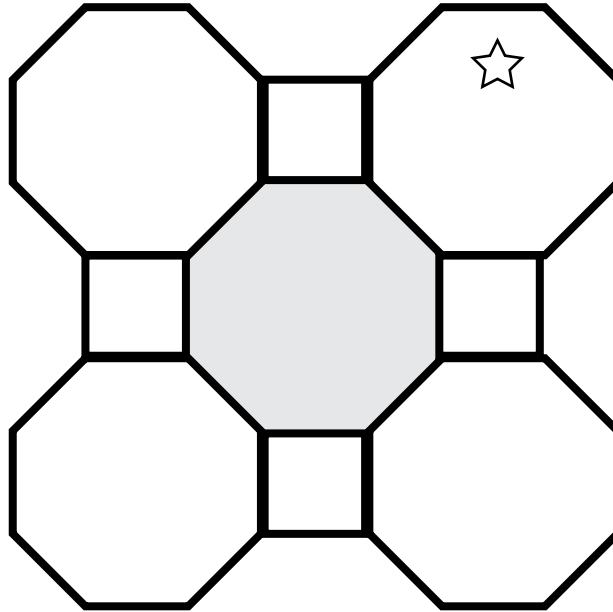
Follow the same directions.

FRACTION BANK

· · · · · · · · · · · ·

$\frac{3}{21}$	$\frac{11}{77}$
$\frac{2}{3}$	$\frac{2}{14}$
$\frac{8}{12}$	$\frac{1}{7}$
$\frac{14}{21}$	$\frac{3}{91}$
$\frac{4}{6}$	$\frac{6}{42}$
$\frac{12}{84}$	

19
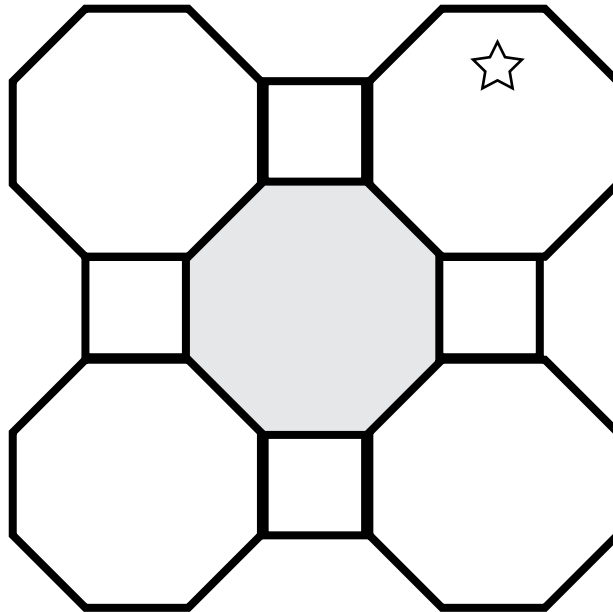
Name _____   **Date** _____

Star Maze

Find your way through the maze from start to finish by crossing over the next greatest fraction. Draw a line to show the path.

$\frac{2}{55}$

$\frac{1}{60}$

Start

$\frac{2}{60}$

$\frac{1}{25}$

$\frac{1}{24}$

$\frac{1}{7}$

$\frac{7}{8}$

$\frac{2}{5}$

$\frac{8}{64}$

$\frac{1}{11}$

$\frac{3}{3}$

Finish

$\frac{3}{4}$

$\frac{2}{20}$

$\frac{2}{3}$

$\frac{5}{7}$

$\frac{5}{9}$

$\frac{1}{4}$

$\frac{2}{9}$

$\frac{4}{9}$

$\frac{3}{4}$

$\frac{9}{11}$

$\frac{1}{3}$

20

Name _____ **Date** _____

Fraction Hunt

Compare the fractions below using < or >. Then hunt for each of the larger fractions in word form in the word search below. The words may be found vertically, horizontally, diagonally, or backward. (Some fractions may appear more than once.)

$\frac{1}{2}$ ◯ $\frac{1}{4}$ $\frac{2}{3}$ ◯ $\frac{3}{5}$ $\frac{4}{5}$ ◯ $\frac{7}{8}$

$\frac{1}{7}$ ◯ $\frac{1}{13}$ $\frac{1}{3}$ ◯ $\frac{5}{7}$ $\frac{7}{12}$ ◯ $\frac{8}{15}$

$\frac{5}{9}$ ◯ $\frac{2}{3}$ $\frac{6}{15}$ ◯ $\frac{7}{9}$ $\frac{3}{8}$ ◯ $\frac{5}{17}$

$\frac{2}{11}$ ◯ $\frac{1}{3}$ $\frac{9}{10}$ ◯ $\frac{11}{13}$ $\frac{1}{5}$ ◯ $\frac{1}{4}$

f	e	h	y	s	h	t	n	e	v	e	s	e	n	o
n	a	c	d	y	t	w	o	t	h	i	r	d	s	m
s	i	d	x	v	f	t	n	p	z	g	t	b	e	t
h	s	e	h	e	i	t	e	g	v	b	f	k	v	h
t	n	d	t	r	e	l	h	g	k	k	s	n	e	r
f	r	u	r	v	c	u	a	v	t	r	e	i	n	e
l	d	q	u	i	b	n	l	c	u	d	v	n	e	e
e	p	b	o	x	h	q	f	b	o	r	e	e	i	e
w	n	c	f	w	c	t	f	w	p	i	n	t	g	i
t	a	t	e	r	c	a	o	o	i	h	n	e	h	g
n	c	e	n	i	n	k	l	w	i	t	i	n	t	h
e	q	w	o	m	k	a	s	o	t	e	n	t	h	t
v	e	f	i	v	e	s	e	v	e	n	t	h	s	h
e	z	e	w	n	l	m	u	b	q	o	h	s	s	s
s	c	w	d	i	e	b	u	i	w	r	s	m	a	z

Name _____   **Date** _____

Sum Fraction Fun

Place the fractions in the balloons below in the puzzle at right so that each row and column has a sum of 1. Two of the fractions have been added to get you started.

Balloons: $\frac{5}{16}$, $\frac{9}{16}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{7}{16}$, $\frac{3}{16}$

Grid top row: $\frac{1}{8}$, ◯, ◯
Grid middle row: ◯, $\frac{1}{4}$, ◯
Grid bottom row: ◯, ◯, ◯
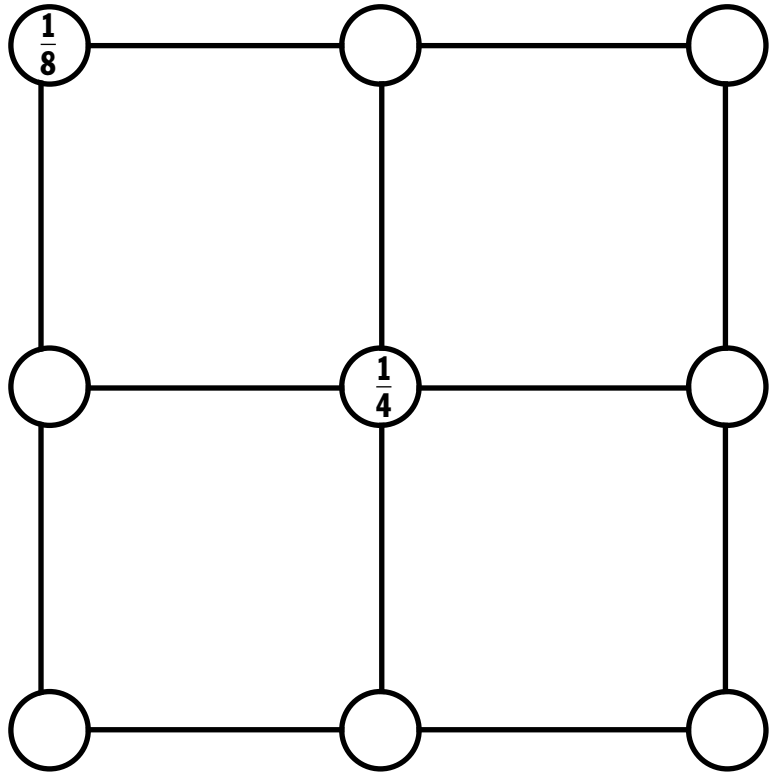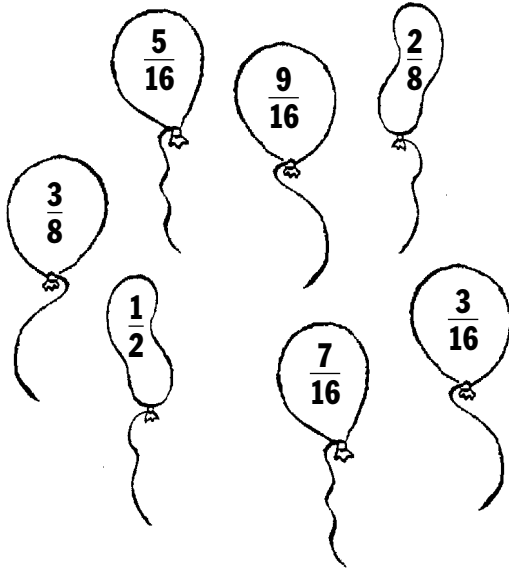
Follow the same directions to complete this puzzle, but use the following fractions. One fraction has been added to get you started.

Balloons: $\frac{1}{7}$, $\frac{4}{9}$, $\frac{1}{6}$, $\frac{2}{9}$, $\frac{1}{2}$, $\frac{53}{126}$, $\frac{26}{63}$, $\frac{1}{3}$

Grid top row: ◯, ◯, ◯
Grid middle row: ◯, ◯, $\frac{5}{14}$
Grid bottom row: ◯, ◯, ◯
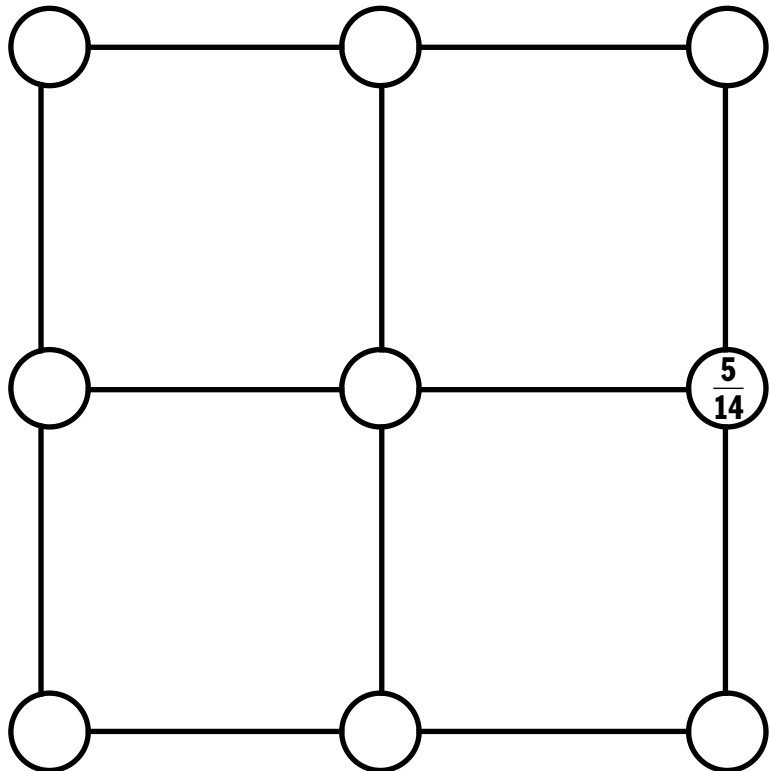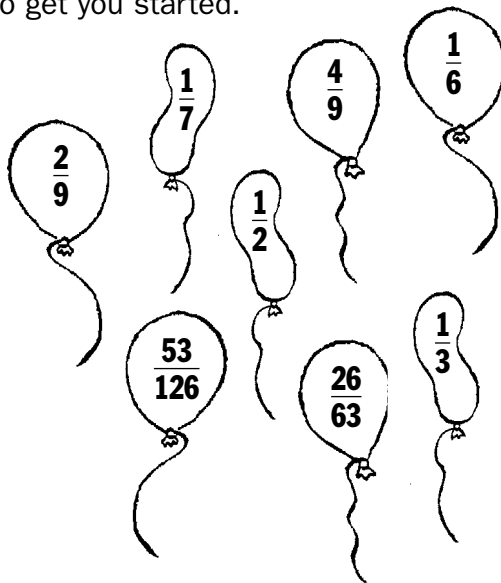
Name _____ **Date** _____

Domino Math

Think of each domino as a fraction. The top number of dots is the numerator and the bottom number of dots is the denominator. For example, the first domino in number 1 below equals $\frac{4}{5}$. Use the dominoes in the fraction bank to make each of the number statements true. Use each domino only once. You may use numbers or draw dots to show your answers. The first problem has been done for you.

FRACTION BANK ✓

1.

2.

3.

4.

5.

6.

7.

8.

23

Name _____   **Date** _____

Fraction Towers

When adjacent fractions are multiplied, the product is written in the hexagon between and above them. Use the fractions in the data bank to complete each fraction tower. Be careful, some of the fractions will not be used.

FRACTION BANK

$\frac{1}{8}$ $\frac{2}{3}$ $\frac{2}{4}$ $\frac{2}{5}$ $\frac{4}{15}$

$\frac{4}{30} = \frac{2}{15}$

$\frac{6}{12} = \frac{1}{2}$ |x|

$\frac{3}{4}$ |x| |x|
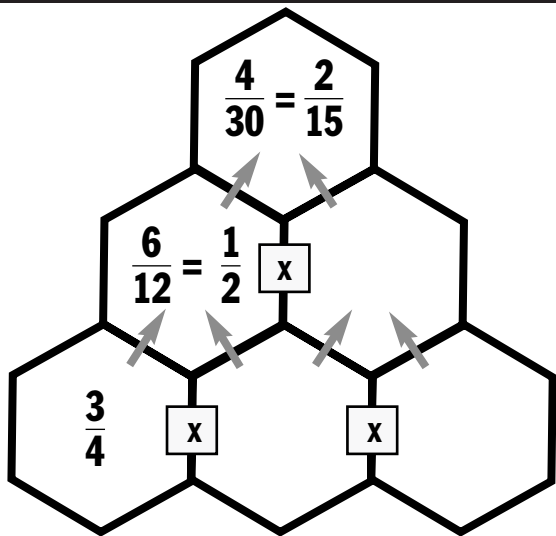
FRACTION BANK

$\frac{3}{14}$ $\frac{3}{7}$ $\frac{2}{3}$ $\frac{2}{7}$ $\frac{2}{5}$

$\frac{3}{42} = \frac{1}{14}$

|x| $\frac{2}{6} = \frac{1}{3}$

|x| $\frac{1}{2}$ |x|
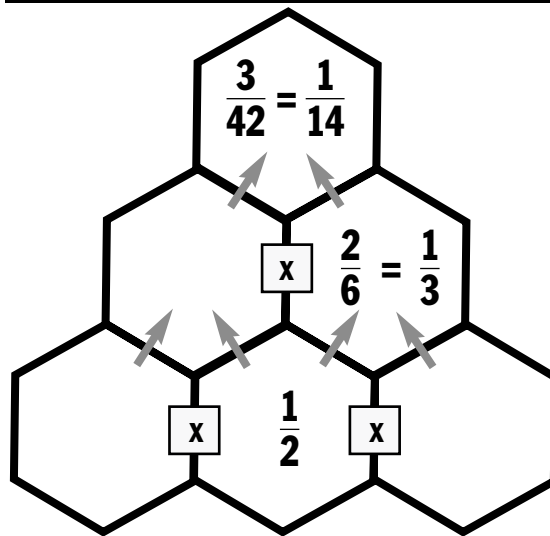
FRACTION BANK

$\frac{1}{56}$ $\frac{1}{3}$ $\frac{2}{7}$ $\frac{3}{7}$ $\frac{2}{5}$ $\frac{4}{15}$

$\frac{3}{24} = \frac{1}{8}$ |x| $\frac{3}{21} = \frac{1}{7}$

$\frac{3}{8}$ |x| |x|
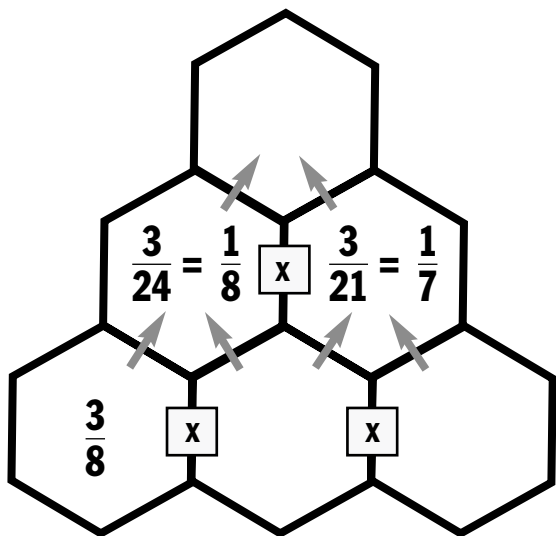
FRACTION BANK

$\frac{1}{20}$ $\frac{2}{3}$ $\frac{2}{4}$ $\frac{1}{40}$ $\frac{1}{2}$ $\frac{2}{5}$

$\frac{2}{8} = \frac{1}{4}$ |x| $\frac{4}{20} = \frac{1}{5}$

|x| |x|

24
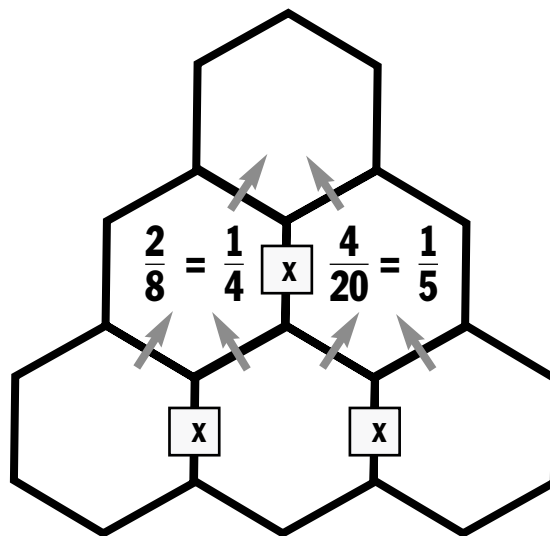
Name _____ **Date** _____

Doggone Fun

Get ready for some hilarious riddles about a man's best friend—his dog!

1. **What do you call a hot dog?** To find the answer, write the letters spelling each quotient (in lowest terms) in the puzzle. The letters in the bold squares show the answer. The first one has been done for you.

$\frac{2}{15} \div \frac{2}{3} =$ | O | N | E | - | **F** | I | F | T | H |

$\frac{1}{3} \div \frac{3}{4} =$ ... **A**

$\frac{1}{8} \div \frac{5}{4} =$ ... **K**
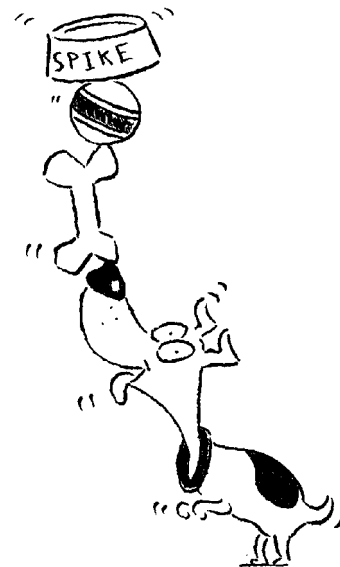
2. **What do you call a dog that tells time?**

$\frac{2}{5} \div \frac{3}{5} =$ ... **A**

$\frac{2}{3} \div \frac{3}{4} =$ ... **C**

$\frac{2}{8} \div \frac{3}{6} =$ ... **D**

$\frac{4}{10} \div \frac{2}{4} =$

$\frac{3}{6} \div \frac{4}{3} =$

3. **Why did the dog want to become a surgeon? He was a** _____.

B

$\frac{3}{9} \div \frac{6}{9} =$

$\frac{2}{25} \div \frac{2}{5} =$

$\frac{3}{7} \div \frac{3}{2} =$

$\frac{3}{6} \div \frac{3}{4} =$

H

$\frac{2}{7} \div \frac{5}{7} =$

$\frac{8}{9} \div \frac{4}{2} =$

$\frac{7}{35} \div \frac{2}{7} =$

D

25

Name _____ **Date** _____

Ring Toss

Place a ring around two pegs that when added together equal 10. You can connect adjacent pegs vertically, horizontally, or diagonally. Try and find all 10 possible answers. Some of the numbers will be used twice. The first one has been done for you.

$3\frac{1}{5}$	$6\frac{16}{20}$	$3\frac{7}{9}$	$4\frac{3}{4}$
$4\frac{9}{10}$	$6\frac{4}{18}$	$2\frac{3}{5}$	$5\frac{9}{36}$
$5\frac{5}{50}$	$4\frac{18}{20}$	$7\frac{1}{3}$	$2\frac{14}{21}$
$4\frac{1}{2}$	$\frac{9}{17}$	$2\frac{10}{15}$	$3\frac{6}{14}$
$5\frac{6}{12}$	$\frac{8}{17}$	$9\frac{16}{34}$	$6\frac{4}{7}$

Name _____   **Date** _____

Mixed-Up Fractions

Each number at right is contained inside a different shape.
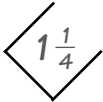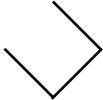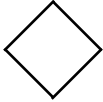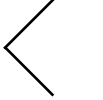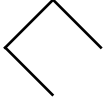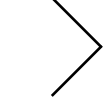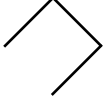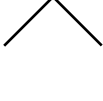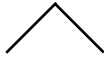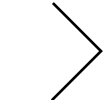
Example: The number $6\frac{6}{14}$ is inside a ⌐ shape.

Write the correct number inside each shape in questions 1–10. Then solve each problem. Write your answer on the line. The answers are scrambled in the code box. A letter appears with each answer. Write the letter in the box next to your answer. The first one has been done for you. When you finish, you will have the solution to this riddle:

What did the writer name his boat?

$6\frac{6}{14}$	$3\frac{5}{6}$	$7\frac{2}{3}$
$9\frac{5}{8}$	$5\frac{3}{7}$	$5\frac{1}{6}$
$6\frac{1}{3}$	$7\frac{2}{5}$	$8\frac{2}{6}$

Diamond grid:
$2\frac{2}{8}$
$1\frac{1}{5}$ $1\frac{1}{4}$
$4\frac{2}{7}$ $2\frac{2}{7}$ $6\frac{1}{4}$
$3\frac{1}{10}$ $1\frac{2}{3}$
$5\frac{3}{5}$

1. $\boxed{5\frac{3}{7}}$ – $\langle 1\frac{1}{4} \rangle$ = __$4\frac{5}{28}$__ $\boxed{P}$

2. ⌐ – ◇ = _____ ☐

3. ⌐ – ◇ = _____ ☐

4. ⌐ – ⟨ = _____ ☐

5. ⌐ – ⟨ = _____ ☐

6. ⌐ – ⟩ = _____ ☐

7. ⌐ – ⟩ = _____ ☐

8. ⌐ – ∧ = _____ ☐

9. ∧ – ⟩ = _____ ☐

10. ⌐ – ∨ = _____ ☐

CODE BOX

$2\frac{19}{30}$	E
$3\frac{1}{2}$	A
$4\frac{1}{21}$	N
$4\frac{5}{28}$	P
$1\frac{11}{35}$	I
$3\frac{1}{2}$	A
$4\frac{3}{10}$	S
$2\frac{11}{15}$	H
$3\frac{3}{8}$	M

27

Name _____ **Date** _____

Bull's Eye

Tom and Andrew are playing a game of "Product Darts." Each player shoots two darts and multiplies the numbers together. The player with the highest number wins the round. Look at the dartboard below and answer the questions.

5

$4\frac{1}{2}$

$3\frac{5}{8}$

$2\frac{3}{4}$

$1\frac{3}{5}$

$1\frac{1}{4}$
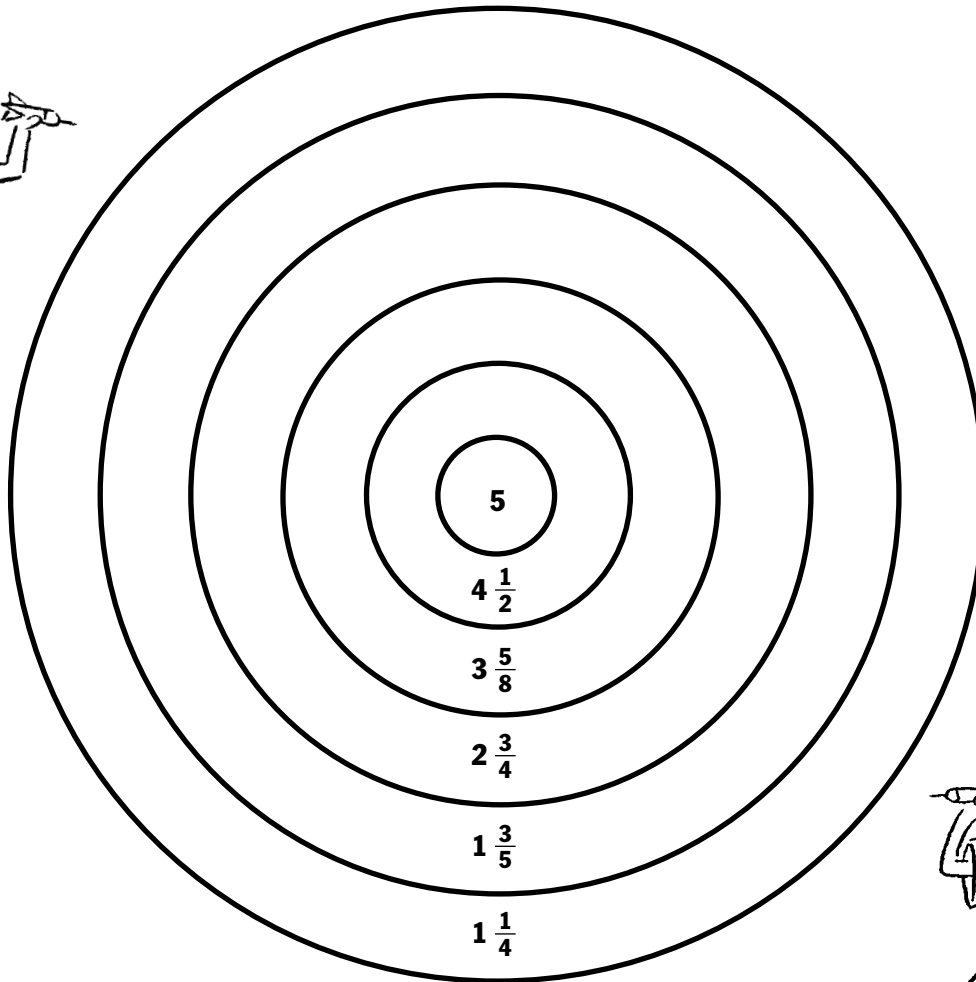
1. If Tom's score was greater than **$22\frac{1}{2}$** , where did his darts land?

2. If Andrew's score was **$13\frac{3}{4}$** , where did his darts land?

3. If Tom's score is a whole number, where did his darts land?

4. If Andrew's score was **$9\frac{31}{32}$** , where did his darts land?

5. It's your turn to make up a dartboard problem.
   Trade with friends and see if they can solve your problem.

28

Name _____ **Date** _____

Horsing Around with Fractions

Help each horse find its way to the correct barn without crossing the path of another horse. How do you know which horse belongs to which barn? Do the division problem beside each barn; the correct horse has the answer written on it.

1. $\frac{9}{11}$

2. $3\frac{6}{7}$

3. $\frac{6}{7}$

4. $\frac{35}{72}$

5. $\frac{27}{28}$

6. $7\frac{7}{8}$

7. $1\frac{38}{77}$

A. $1\frac{1}{7} \div 2\frac{2}{3} =$ _____
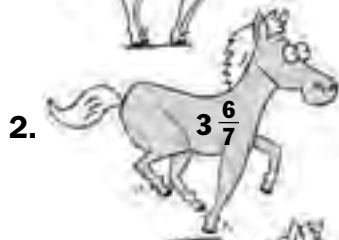
B. $1\frac{4}{5} \div 2\frac{3}{15} =$ _____
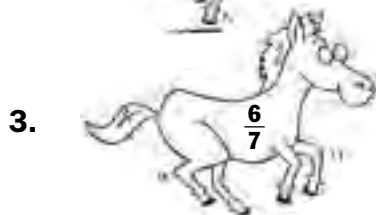
C. $4\frac{1}{2} \div 2\frac{1}{6} =$ _____

D. $2\frac{1}{4} \div 2\frac{1}{3} =$ _____

E. $1\frac{1}{6} \div 2\frac{2}{5} =$ _____
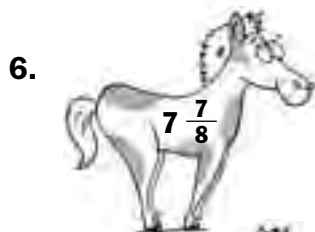
F. $2\frac{1}{11} \div 1\frac{2}{5} =$ _____

G. $3\frac{1}{2} \div \frac{4}{9} =$ _____

29

Name _____ **Date** _____

Cat Fun

Get ready for some funny riddles about our furry friends—cats!

1. **After it got a shot, what did the kitty say to the veterinarian?** To find the answer, write the decimal as a fraction (in lowest terms) spelled in words in the puzzle. The letters in the bold squares show the answer. The first one has been done for you.

```
              M
              E
0.4 =  T W O - F I F T H S
0.25 = [ ][ ][ ][ ][ ][ ][ ][ ][ ]
              O
              C
0.5 = [ ][ ][ ][ ][ ][ ][ ][ ]
```

2. **What is the cat's favorite board game?**

```
          M
0.125 = [ ][ ][ ][ ][ ][ ][ ][ ][ ]
0.8 = [ ][ ][ ][ ][ ]
0.7 = [ ][ ][ ][ ][ ][ ][ ]
0.3 = [ ][ ][ ][ ][ ]
0.75 = [ ][ ][ ][ ][ ][ ][ ][ ][ ]
0.375 = [ ][ ][ ][ ][ ][ ][ ][ ][ ]
          A
          P
```

3. **Why did the cat have to stay after school? He was caught _____ .**

```
              C
0.500 = [ ][ ][ ][ ][ ][ ][ ]
              R
              R
              Y
0.625 = [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
              N
              G
0.8125 = [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]
              A
              L
0.20 = [ ][ ][ ][ ][ ][ ][ ][ ]
              S
```

30

Amazing Math Puzzles & Mazes © Cindi Mitchell, Published by Scholastic Teaching Resources

Name _____ **Date** _____

Square Madness

Compare the decimals and write the larger decimal in the puzzle. The decimal point will occupy one space. Each number can occupy only one place to make the whole puzzle fit together perfectly. Two numbers have been given to get you started.

9.09 $<$ 9.18 | 18.3 $>$ 18.03 | 31.8 ◯ 30.4 | 54.1 ◯ 54

0.8 ◯ 0.82 | 29.5 ◯ 28.5 | 3.57 ◯ 3.55 | 8.31 ◯ 8.30

6.71 ◯ 6.75 | 41.05 ◯ 41.5 | 0.009 ◯ 0.09 | 5.20 ◯ 5.10

1.09 ◯ 1.08 | 9.33 ◯ 9.36 | 21.45 ◯ 21.5 | 3.22 ◯ 3.12

7.91 ◯ 7.90 | 0.102 ◯ 0.12 | 0.73 ◯ 0.71 | 93.4 ◯ 93.0

Name _____ **Date** _____

Magic Square

These squares are magic because each row of four circles magically adds up to 100. You're the magician. See if you can use the numbers in the box below to make the puzzle work. Four numbers have been added to get you started.

10.39	9.02	29	3.09	43	10.6	12.42	57.5

7.11

25

51.47

28.91
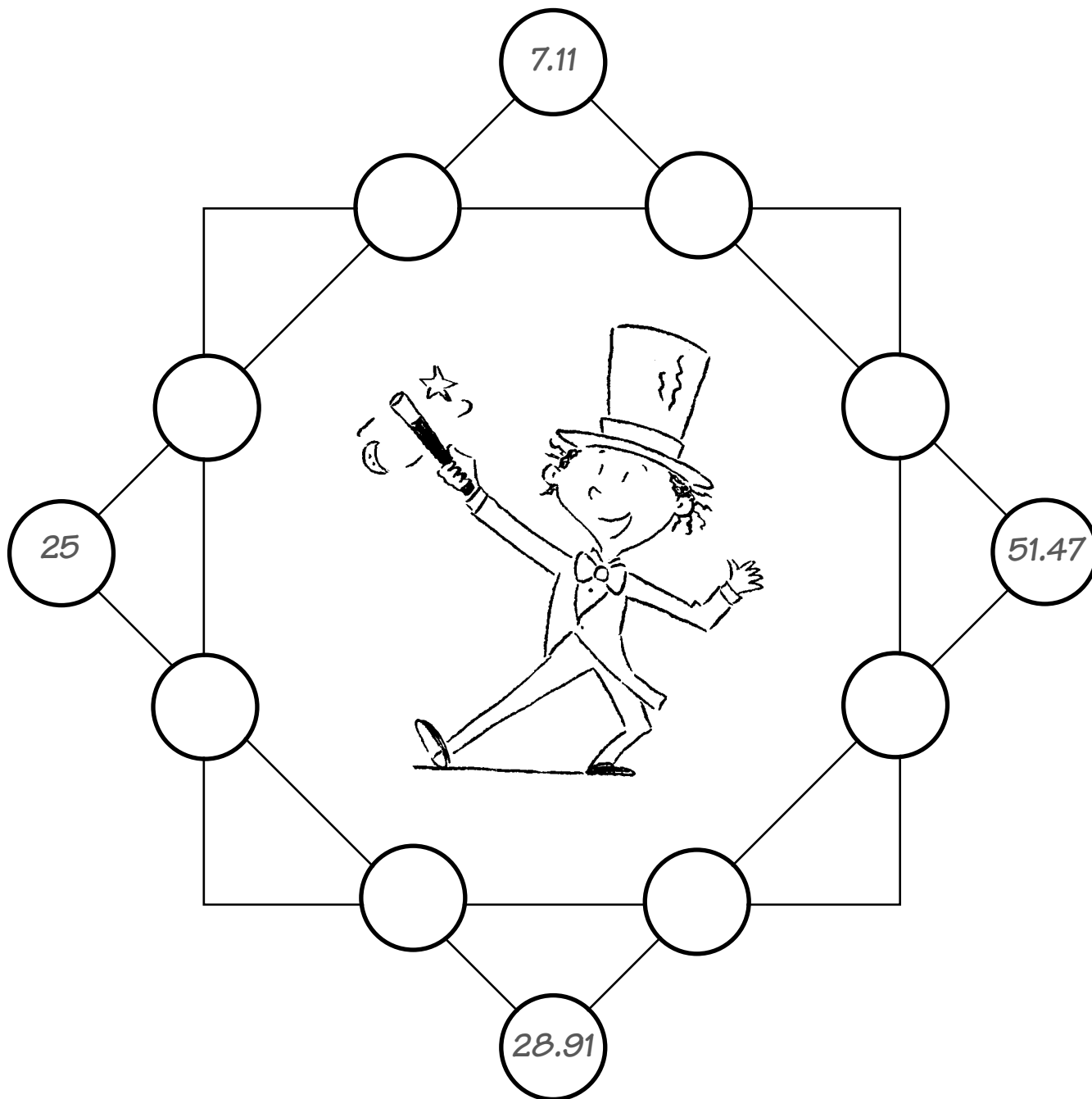
Name _____ **Date** _____

Silence

What question never gets a reply if the answer is "yes"? To find out, do the subtraction problems below. Then write the code letter beside your answer on the correct line at the bottom of the page. The first one has been done for you.

13.5 − 2.8 **S** *10.7*	38.9 − 9.3 **G**	211.9 − 8.7 **A**	70.5 − 13.2 **E**
42.84 − 7.19 **L**	594.5 − 86.4 **R**	78.2 − 6.7 **U**	13.41 − 9.15 **O**
93.25 − 4.18 **N**	9.75 − 0.83 **Y**	261.05 − 30.23 **P**	322.5 − 91.5 **I**

☐ ☐ ☐   ☐ ☐ ☐
203.2 508.1 57.3   8.92 4.26 71.5

S ☐ ☐ ☐ ☐ ☐ ☐ ☐ **?**
10.7 35.65 57.3 57.3 230.82 231 89.07 29.6

33

Name _____ **Date** _____

Spirals

This puzzle gives you two chances to get the right answers! Here's how. First, solve each problem and write the answers on the lines provided. Then, to spiral inward, place the numbers in the boxes indicated beside each problem. The decimal point will occupy a space. To spiral outward, and to check your answers, put your answers in the boxes indicated but spiral in the opposite direction. The numbers should match. One answer is given to get you started.

15	16	17	18	19	20	21	22
14	39	40	41	42	43	44	23
13	38	55	56	57	58	45	24
12	37	54	63	64	59	46	25
11	36	53	62	61	60	47	26
10	35	52	51	50	49	48	27
9	34	33	32	31	30	29	28
8	7	6	5 *8*	4 *6*	3 *.*	2 *3*	1 *4*

Spiral Out

Blocks

1-5	3.64 x 12 =	*43.68*
6-11	2.91 x 39 =	
12-16	9.2 x 13 =	
17-21	11 x 4.75 =	
22-26	27 x 22.7 =	
27-31	4.13 x 22 =	
32-36	22.3 x 27 =	
37-41	0.91 x 94 =	
42-46	6.82 x 14 =	
47-52	83.2 x 34 =	
53-58	51.9 x 28 =	
59-64	688.7 x 12 =	

Spiral In

Blocks

64-61	1.115 x 4 =
60-56	47.05 x 6 =
55-50	1,354.7 x 4 =
49-47	564 x 0.5 =
46-43	16.9 x 5 =
42-38	189.1 x 5 =
37-32	40.603 x 2 =
31-27	34.045 x 2 =
26-22	3.072 x 3 =
21-17	10.45 x 5 =
16-12	1.3822 x 5 =
11-7	18.862 x 5 =
6-1	93.17 x 2 =

34

Name _____ **Date** _____

Dialing for Answers

How much does an elephant charge for a circus performance?
Find out the answer by solving each puzzle and replacing the number in the ones place with the letter from the telephone code. Then write the letters on the dotted lines. The first one has been done for you.
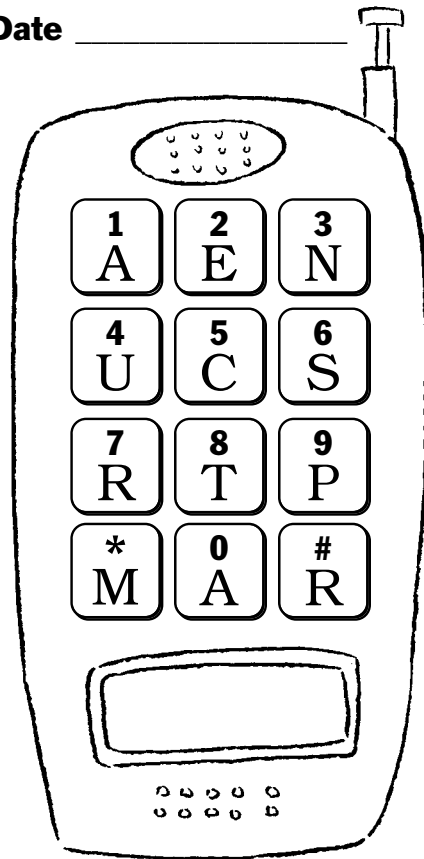
1 A	2 E	3 N
4 U	5 C	6 S
7 R	8 T	9 P
* M	0 A	# R

1.
```
    13.7
 x     8
  109.6  P
```

2.
```
    13.2
 x     4
  ____
```

3.
```
    37.5
 x    12
  ____
```

4.
```
   19.11
 x    18
  ____
```

5.
```
   21.03
 x    24
  ____
```

6.
```
    46.4
 x     6
  ____
```

7.
```
   30.45
 x    15
  ____
```

```
1   2   3   4   5   6   7
```

What weighs more than a ton and carries a trunk wherever it goes?

8.
```
    2.35
 x     5
  ____
```

9.
```
    64.2
 x     6
  ____
```

10.
```
    45.8
 x     2
  ____
```

11.
```
   35.15
 x    15
  ____
```

```
8       9   10   11
```

35

Name _____ **Date** _____

Brain-Bending Labyrinth

Solve the problems. Then, find your way through the labyrinth by following a path of increasing decimal answers. To form a path, a corner or a side must connect the diamonds. Be careful, you don't want to land on a diamond with a mummy, skeleton, or an answer with the unlucky number 13!

0.4 x 1.2	7.8 x 2.1	15.9 x 2.31
	0.45 x 1.19	5.2 x 0.9
12.04 x 5.1	1.04 x 7.2	1.4 x 4.2
15.4 x 2.3	22.9 x 3.7		16.0 x 2.4
	10.6 x 5.2	17.4 x 1.9	5.4 x 7.2
6.5 x 2.0	8.4 x 4.1	10.7 x 9.5	
			12.4 x 11.3
	20.9 x 1.4	12.1 x 12.3	
	3.5 x 0.7	33.7 x 7.9

36

Name _____ **Date** _____

What's the Point?

Do the division problems at the bottom of the page, and place the answers in the crossword puzzle. The decimal point will occupy a space. The first one has been done for you.

A **1**	**0**	**.**	B **4**								

(Crossword grid with lettered cells: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, T, U)
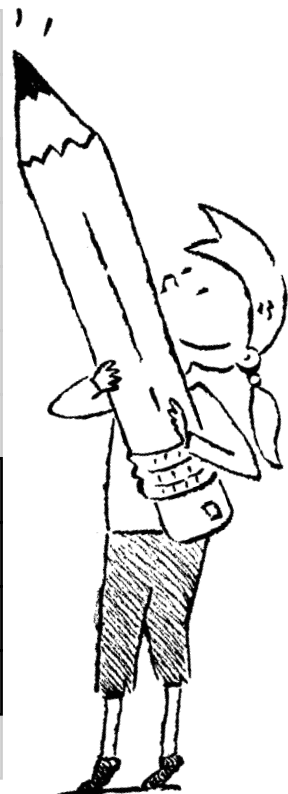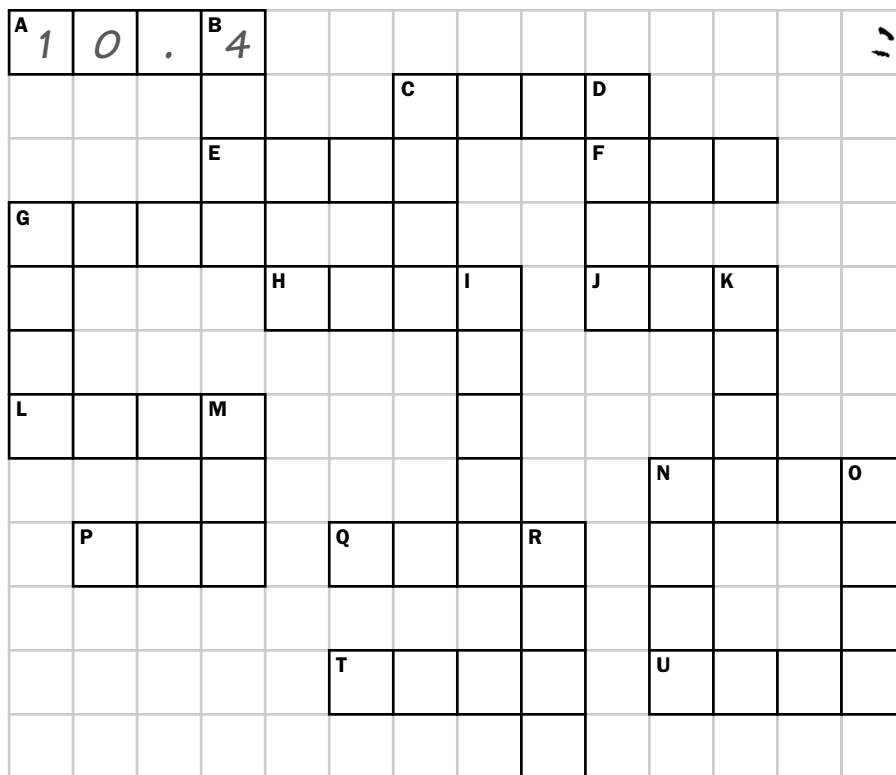
Across

A. $132.08 \div 12.7 = $ **10.4**

C. $43.56 \div 1.8 = $

E. $19.57 \div 1.9 = $

F. $47.52 \div 8.8 = $

G. $6.732 \div 3.6 = $

H. $10.235 \div 2.3 = $

J. $36.34 \div 4.6 = $

L. $15.283 \div 1.7 = $

N. $73.7 \div 5.5 = $

P. $33.32 \div 6.8 = $

Q. $30.552 \div 5.7 = $

T. $75.06 \div 2.7 = $

U. $20.163 \div 3.3 = $

Down

B. $8.757 \div 2.1 = $

C. $205.92 \div 8.8 = $

D. $125.93 \div 4.9 = $

G. $69.52 \div 4.4 = $

I. $63.723 \div 1.1 = $

K. $12.642 \div 1.4 = $

M. $41.58 \div 4.2 = $

N. $27.72 \div 2.2 = $

O. $441.98 \div 9.8 = $

R. $19.807 \div 2.9 = $

37

Name _____   Date _____

Brain Rattler

Ready for a brain-rattling number game? Cut out the game pieces from around the game board and place them on the game board in the order shown in the box at the bottom of the page. Then, move the game pieces until each horizontal row has an equivalent decimal, percent, and fraction (in lowest terms). You may move only one piece at a time into the empty circle. You may move vertically, horizontally, or diagonally.

10%

$\dfrac{33}{100}$

25%

$\dfrac{4}{5}$

$\dfrac{1}{10}$
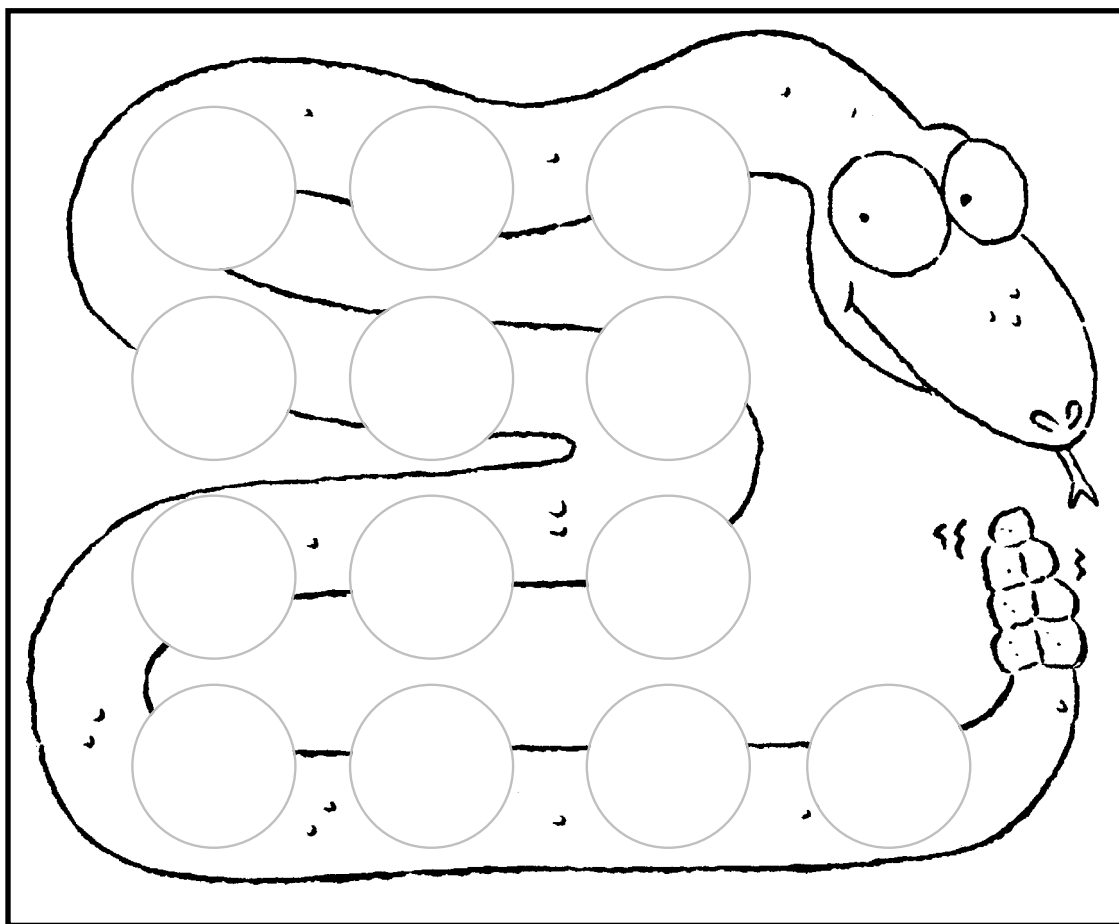
0.8   .25   0.33   0.1

80%   33% $\dfrac{1}{4}$

.25	0.1	10%
25%	$\dfrac{4}{5}$	$\dfrac{1}{10}$
80%	$\dfrac{33}{100}$	$\dfrac{1}{4}$
0.33	33%	0.8

38

Name _____   Date _____

Shop Until You Drop

Look at the advertisement below. Everything at Ohmigolly Clothing Store is a fantastic ten percent off. After the discount was taken, Amelia spent exactly one hundred dollars for four items (before taxes). One of the items she bought has been circled below. Put a ring around the other three items she bought. Hint: Total the items first and then figure out the discount.

Ohmigolly Clothing Store's Holiday Extravaganza Sale
Everything for your holiday parties.

CHENILLE SCARVES in your favorite holiday colors. Value Priced at **$15.99**	*Handbags* Value Priced **Only $9.99**	Make every occasion special with a beaded **MOHAIR SWEATER** Was $50.00 **Now $32.99**
Velvet miniskirts in black, red, or white. **Only $50.14**	**DIAMOND-STUDDED WATCHES** $59.99 The Perfect Holiday Gift	Black leather gloves at a special holiday price. $13.50
CREAMY WHITE SILK BLOUSE **Just $29.99** Perfect for holiday parties!	*Hair Accessories* Your Choice **$5.00**	Holiday Jewelry Your Choice Only $14.99 Regular Prices $20-$50 What savings!
Party Dresses Many styles from which to choose. **FOR THIS WEEK ONLY!** $89.00	Perfect Party Wear Cashmere Jackets One Day Only $199.99	**Shoes, Shoes, Shoes** All styles and colors now at this amazing low price. **$48.00 a pair**

Name _____ Date _____

Galactic Math

Find your way through the Islandic Labyrinth. Begin your journey at the top. Move along the paths from one circle to the next, performing the operation indicated. For instance:

$(+7) - (-5) = 12$ $(-8) + (+3) = -5$

Tally your score as you go. You may never retrace your path or cross over it. When you get to the exit, if your score is 19, you may exit. If not, try again.

+5 ← **You are now entering the Islandic Labyrinth. Travel at your own risk!**

+ +

+8 + **+11**

− − − −

+9 + **−1** + **−3**

+ − + +

+12 + **+2** + **−2**

+ − +

+16 + **+9** + **+3** + **+13** + **−7**

− − − − +

−17 + **+10** + **+12**

+ − −

+4 − **−18**

+ −

+8 → **Exit**
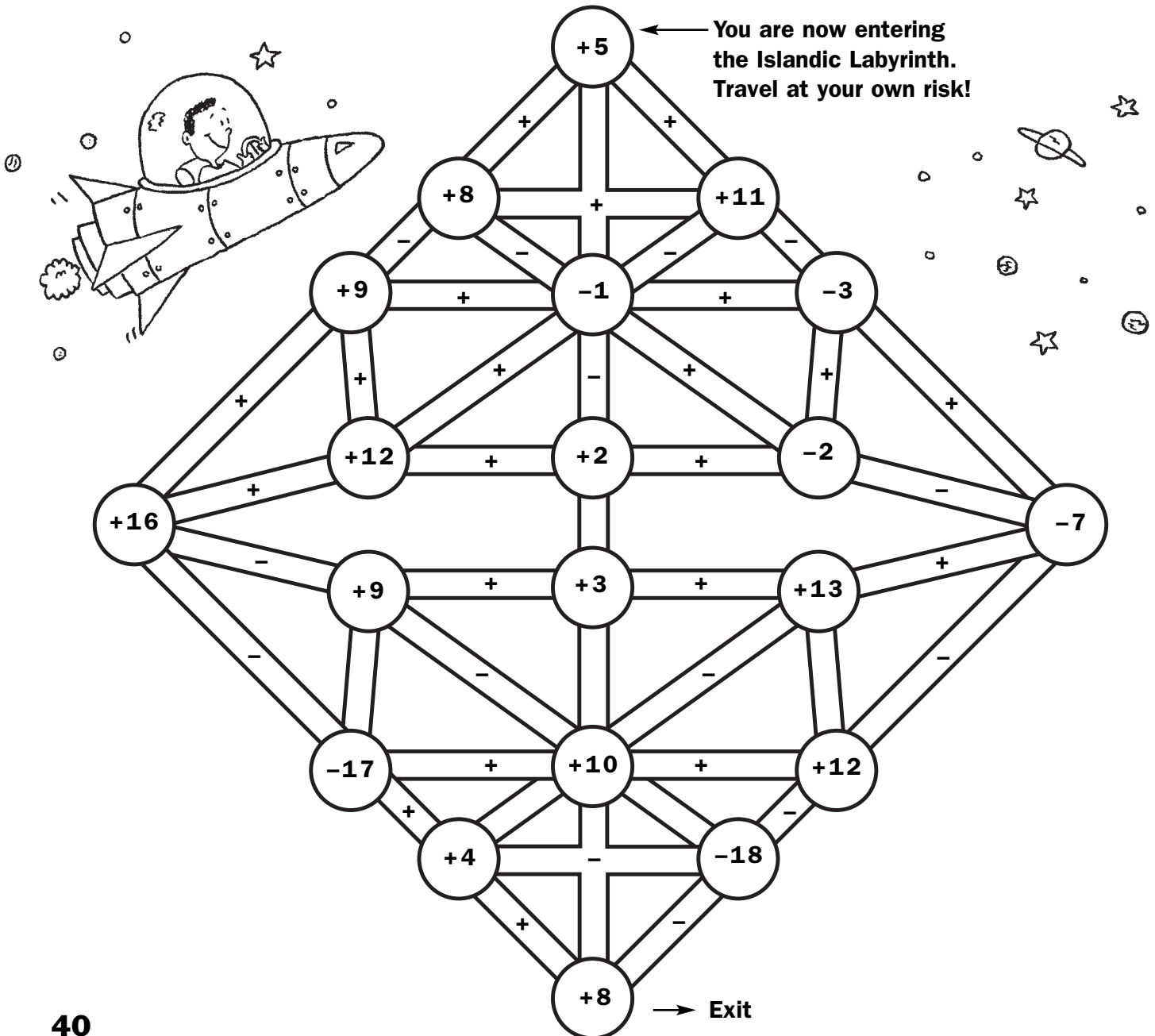
Name _____ **Date** _____

Brain Crusher

1. Get ready for fun, get ready for agony, get ready to solve a brain-crushing math square! Here's how. Place the nine numbers in the integer bank into the empty squares so that all of the columns and rows form correct mathematical sentences. All the numbers must be used once and there is only one answer. One of the numbers has been placed to get you started.

INTEGER BANK	–8 ✓	1	–3	11	–2	–1	9	–7	4

	+	–8	=	
-		**-**		**-**
	+		=	
=		**=**		**=**
	+		=	

2. Ready for another one? This time the numbers are in the puzzle, but the operation signs are missing. Place subtraction or addition signs in the empty boxes so that all of the columns and rows form correct mathematical sentences.

–4		–7	=	–11
–7		1	=	–6
=		**=**		**=**
3		–8	=	–5

Name _____ **Date** _____

Seven Circles

Get ready to solve these mind-boggling mystery circles! Here's how. Each circle has a mystery number value. Where some circles overlap, there is a number; this number is the product of the mystery values of the two circles. For instance:

A (–8) B $\begin{array}{r} A \\ x\ B \\ \hline -8 \end{array}$
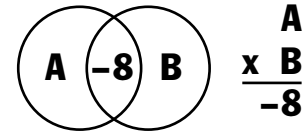
1. Solve these mystery circles by placing one of the following numbers into each circle: -3, -2, -1, 0, 1, 2, and 3 (each number is only used once). Then, write the numbers in the answer box.

Answer Box

A=

B=

C=

D=

E=

F=

G=

B   –9   –3   G   –6   C   6   A   2   –6   –1   –4   –2   D   E   0   0   F   0
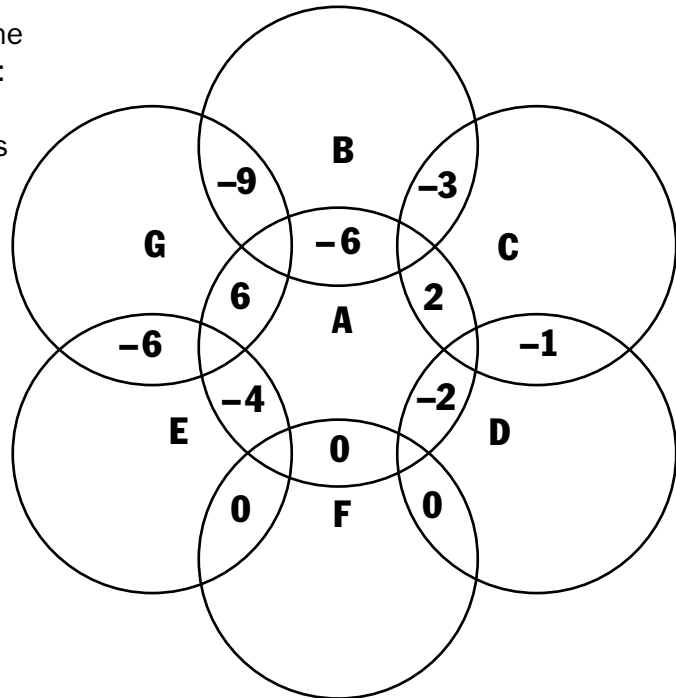
2. To solve these mystery circles, place one of the following numbers in each circle: -8, -7, -6, -3, 2, 4, and 9 (each number is only used once). Then, write the numbers in the answer box.

Answer Box

A=

B=

C=

D=

E=

F=

G=

A   –14   B   –6   D   18   E   –63   18   –16   24   –12   –24   C   F   G   –72   –32
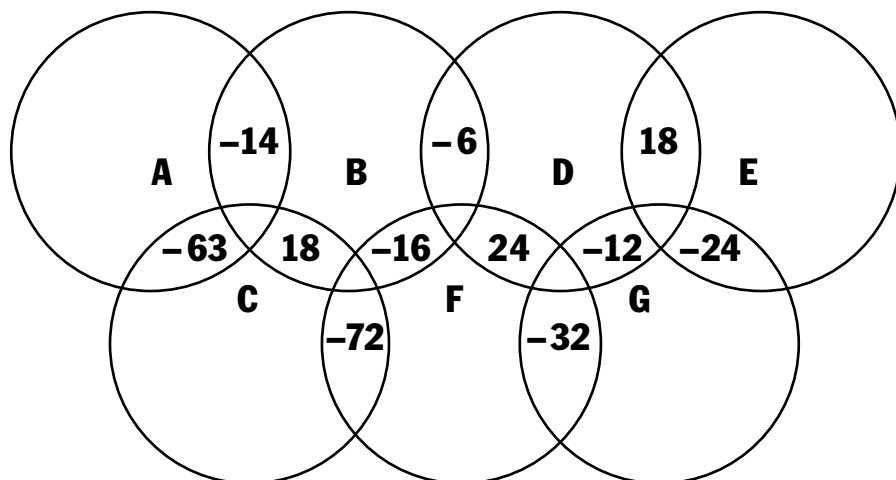
Name _____ **Date** _____

Computer Glitch

The math teacher was creating a test on her computer late at night. All of a sudden she punched the wrong key, and all of the numbers scrambled. The divisors, dividends, and quotients are scattered around the page. Can you put the numbers back together so that when you divide the dividend by the divisor, you get the right quotient? You may want to use a calculator. The first one has been done for you.

```
        -9                      13

  -231           17 ✓                  -44
        -11                            -19
                         32

  -512              105

      4         -4                   -48

                          -3 ✓
         -17                      -15
```

1.

$$-3 \overline{)\,{\overset{17}{-51}}}$$

2.

$$11 \overline{)}$$

3.

$$\overset{-7}{} \overline{)}$$

4.

$$-16 \overline{)}$$

5.

$$\overset{12}{} \overline{)}$$

6.

$$153 \overline{)}$$

7.

$$21 \overline{)}$$

8.

$$-247 \overline{)}$$

43

All Mixed Up, p. 5

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

Crisscross Number Puzzles, p. 6

1. **1,352**   2. **3,278**   3. **8,200**
4. **2,346**   5. **3,450**   6. **9,610**
7. **7,551**   8. **3,139**

	A	B	C	D
E	3	2	7	8
F	1	3	5	2
G	3	4	5	0
H	9	6	1	0

9. **9,318**   10. **3,641**   11. **7,495**
12. **2,173**   13. **5,631**   14. **9,572**
15. **1,397**   16. **8,153**

	A	B	C	D
E	9	3	1	8
F	5	6	3	1
G	7	4	9	5
H	2	1	7	3

Fun Times, p. 7

Professor Dee Vision's Famous Crossword, p. 8

What a Card, p. 9

Ridiculous Riddles, p. 10

ten billions, billions, hundred millions	2	3,	7	2	0,	0	0	0,	0	0	0
billions	1	9,	2	2	9,	0	0	0,	4	2	3
billions	3	2,	8	9	0,	0	0	0,	0	0	0
billions, millions, hundred thousands, ten thousands, hundreds, tens, ones	1	1,	0	0	5,	0	0	0,	7	0	9
billions, millions, ten thousands, hundreds, ones	3	3,	0	0	2,	1	1	1,	9	3	5
billions, millions, ten thousands, hundreds, ones	7	0,	0	0	0,	0	0	0,	0	0	0
billions, millions, ten thousands, hundreds, ones	4	1,	8	4	5,	0	2	2,	1	0	9
billions, millions, hundred thousands, ten thousands, hundreds, ones	8	0,	6	5	2,	2	1	0,	0	0	0

ten billions, billions, hundred millions, millions, ten thousands, hundreds, tens, ones	9	0,	0	5	1,	2	3	0,	0	3	7
ten billions, millions, ten thousands, hundreds	2	2,	1	7	9,	9	5	2,	1	0	0
ten billions, millions, ten thousands, hundreds	7	5,	5	1	2,	1	4	5,	7	5	8
ten billions, billions, hundred millions, millions, hundred thousands, ten thousands, hundreds, tens, ones	2	8,	0	0	0,	0	0	0,	0	7	7
ten billions, hundred thousands, hundreds	1	1,	8	3	5,	4	5	0,	0	9	0
ten billions, hundred thousands, hundreds	2	1,	2	1	7,	8	3	5,	6	5	7
ten billions, billions, hundred millions, hundred thousands, hundreds, tens, ones	8	7,	9	0	0,	0	9	3,	2	1	1

More Ridiculous Riddles, p. 11

tens, tenths, hundredths, thousandths	5	4	3	•	1	2	7
thousands, tens, tenths	7	1	9	1	•	6	2
hundreds, ones, hundredths	8	4	8	•	2	0	1
thousands, hundreds, tens, tenths	9	0	2	4	•	7	8
hundreds, tens, ones, hundredths	3	2	1	•	1	1	9
ones, tenths, ten thousandths	4	•	5	6	1	0	7
hundreds, ones, hundredths	9	0	6	•	2	5	2
ones, tenths, ten thousandths	3	•	1	9	3	0	1

tenths, hundredths, thousandths, ten thousandths	3	•	7	1	0	6	3
ones, thousandths	1	1	2	•	4	4	6
tenths, hundred thousandths	8	•	7	1	3	9	4
tenths, hundredths, thousandths, ten thousandths	9	•	2	0	0	8	9
hundredths, millionths	•	2	3	1	8	9	2
tenths, hundred thousandths	5	•	0	2	7	9	1
tenths, hundredths, thousandths, ten thousandths	4	•	8	2	0	1	7

Amazing Primes, p. 12
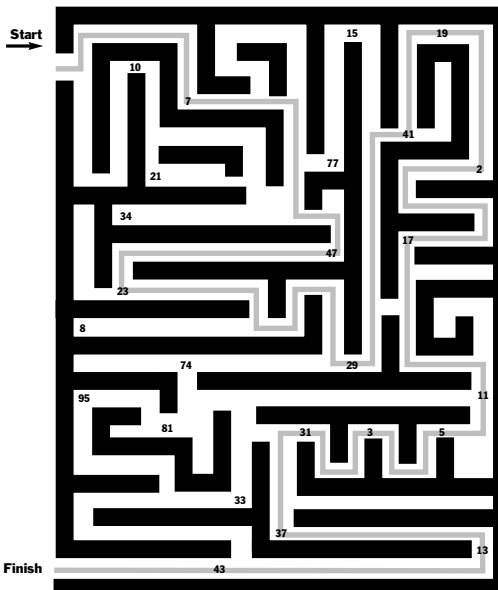
Pattern Block Maze, p. 13
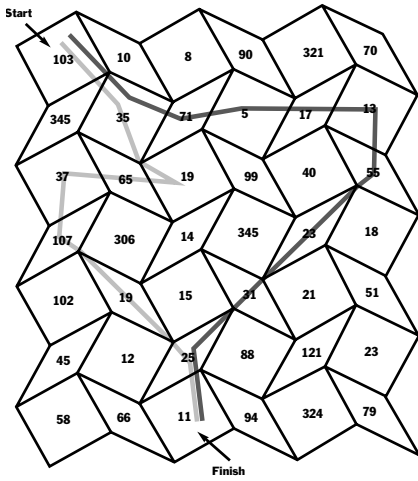
Darker line = "genius" path
Lighter line = "superstar" path

An Amaze-ing Discovery, p. 14
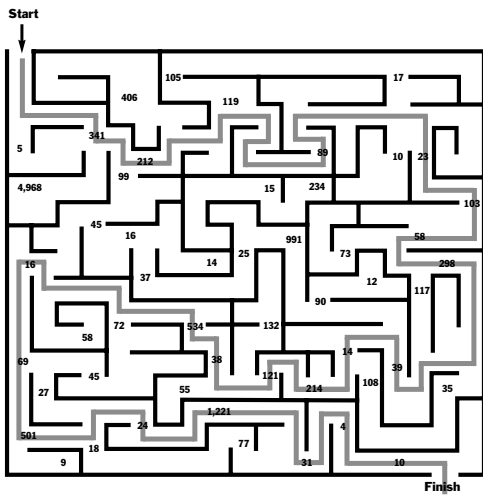
Maze Craze, p. 15

Exponent Experts Only, p. 16
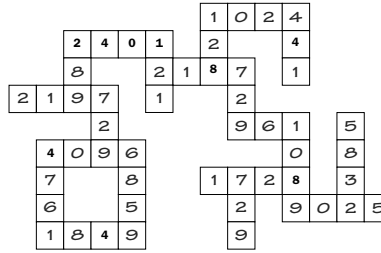
7^4 = 2,401
3^7 = 2,187
43^2 = 1,849
95^2 = 9,025
33^2 = 1,089
27^2 = 729
21^2 = 441

11^2 = 121
17^2 = 289
2^7 = 128
18^3 = 5,832
12^3 = 1,728
8^4 = 4,096
4^5 = 1,024

3^6 = 729
13^3 = 2,197
3^6 = 729
31^2 = 961
19^3 = 6,859
69^2 = 4,761

Master Maze, p. 17

Fraction Flowers, p. 18

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Fraction Puzzler, p. 19

$\frac{18}{54}$ | $\frac{20}{25}$ | ☆ $\frac{1}{3}$

$\frac{16}{20}$ | | $\frac{4}{5}$

$\frac{9}{27}$ | $\frac{8}{10}$ | $\frac{5}{15}$

$\frac{11}{77}$ | $\frac{14}{21}$ | ☆ $\frac{1}{7}$

$\frac{8}{12}$ | | $\frac{2}{3}$

$\frac{6}{42}$ | $\frac{4}{6}$ | $\frac{3}{21}$

Sum Fraction Fun, p. 22

$\frac{1}{8}$ — $\frac{1}{2}$ — $\frac{3}{8}$

$\frac{5}{16}$ — $\frac{1}{4}$ — $\frac{7}{16}$

$\frac{9}{16}$ — $\frac{2}{8}$ — $\frac{3}{16}$

$\frac{1}{3}$ — $\frac{4}{9}$ — $\frac{2}{9}$

$\frac{1}{2}$ — $\frac{1}{7}$ — $\frac{5}{14}$

$\frac{1}{6}$ — $\frac{26}{63}$ — $\frac{53}{126}$

Star Maze, p. 20

Domino Math, p. 23

1. 2. 3.

4. 5. 6.

7. 8. &

Fraction Hunt, p. 21

$\frac{1}{2}$ $>$ $\frac{1}{4}$ $\frac{2}{3}$ $>$ $\frac{3}{5}$ $\frac{4}{5}$ $<$ $\frac{7}{8}$

$\frac{1}{7}$ $>$ $\frac{1}{13}$ $\frac{1}{3}$ $<$ $\frac{5}{7}$ $\frac{7}{12}$ $>$ $\frac{8}{15}$

$\frac{5}{9}$ $<$ $\frac{2}{3}$ $\frac{6}{15}$ $<$ $\frac{7}{9}$ $\frac{3}{8}$ $>$ $\frac{5}{17}$

$\frac{2}{11}$ $<$ $\frac{1}{3}$ $\frac{9}{10}$ $>$ $\frac{11}{13}$ $\frac{1}{5}$ $<$ $\frac{1}{4}$

Fraction Towers, p. 24

Doggone Fun, p. 25

1.

O	N	E	–	F	I	F	T	H
				F	O	U	R	–	N	I	N	T	H	S
				A
O	N	E	–	T	E	N	T	H
				K

2.

				T	W	O	–	T	H	I	R	D	S
				A
E	I	G	H	T	–	N	I	N	T	H	S
				C
O	N	E	–	H	A	L	F
				D
				F	O	U	R	–	F	I	F	T	H	S
T	H	R	E	E	–	E	I	G	H	T	H	S

3.

				B
O	N	E	–	H	A	L	F
				O	N	E	–	F	I	F	T	H
				T	W	O	–	S	E	V	E	N	T	H	S
T	W	O	–	T	H	I	R	D	S
				H
				T	W	O	–	F	I	F	T	H	S
				F	O	U	R	–	N	I	N	T	H	S
S	E	V	E	N	–	T	E	N
				D

Ring Toss, p. 26

Mixed-Up Fractions, p. 27

1. = $4\frac{5}{28}$ 2. = $2\frac{19}{30}$ 3. = $4\frac{1}{21}$

4. = $3\frac{3}{8}$ 5. = $3\frac{1}{2}$ 6. = $4\frac{1}{21}$

7. = $4\frac{3}{10}$ 8. = $2\frac{11}{15}$ 9. = $1\frac{11}{35}$

10. = $4\frac{5}{28}$ PENMANSHIP

Bull's Eye, p. 28

1. **Both landed on 5**

2. $2\frac{3}{4}$ and **5**

3. $1\frac{1}{4}$ and $1\frac{3}{5}$; **5 and 5**

4. $3\frac{5}{8}$ and $2\frac{3}{4}$

Horsing Around with Fractions, p. 29
1–B, 2–C, 3–A, 4–E, 5–D, 6–G, 7–F

A. $1\frac{1}{7} \div 2\frac{2}{3} = \underline{\frac{3}{7}}$

B. $1\frac{4}{5} \div 2\frac{2}{15} = \underline{\frac{9}{11}}$

C. $4\frac{1}{2} \div 2\frac{1}{6} = \underline{2\frac{1}{13}}$

D. $2\frac{1}{4} \div 2\frac{1}{3} = \underline{\frac{27}{28}}$

E. $1\frac{1}{6} \div 2\frac{2}{5} = \underline{\frac{35}{72}}$

F. $2\frac{1}{11} \div 1\frac{2}{5} = \underline{1\frac{38}{77}}$

G. $3\frac{1}{2} \div \frac{4}{9} = \underline{7\frac{7}{8}}$

Cat Fun, p. 30

1.
M E
T W O – F I F T H S
O N E – F O U R T H
O N E – H A L F

2.
M O N E – E I G H T H
F O U R – F I F T H S
S E V E N – T E N T H S
T H R E E – T E N T H S
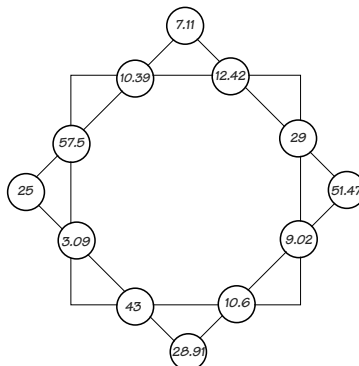T H R E E – F O U R T H S
T H R E E – E I G H T H S

3.
C
O N E – H A L F
A R R Y I N G
F I V E – E I G H T H S
T H I R T E E N – S I X T E E N T H S
O N E – F I F T H

Square Madness, p. 31

9.09 $\lessgtr$ 9.18 18.3 $\gtrless$ 18.03 31.8 $\gtrless$ 30.4 54.1 $\gtrless$ 54

0.8 $\lessgtr$ 0.82 29.5 $\gtrless$ 28.5 3.57 $\gtrless$ 3.55 8.31 $\gtrless$ 8.30

6.71 $\lessgtr$ 6.75 41.05 $\lessgtr$ 41.5 0.009 $\lessgtr$ 0.09 5.20 $\gtrless$ 5.10

1.09 $\gtrless$ 1.08 9.33 $\lessgtr$ 9.36 21.45 $\lessgtr$ 21.5 3.22 $\gtrless$ 3.12

7.91 $\gtrless$ 7.90 0.102 $\lessgtr$ 0.12 0.73 $\gtrless$ 0.71 93.4 $\gtrless$ 93.0

Magic Square, p. 32

Silence, p. 33

S 10.7	G 29.6,	A 203.2	E 57.3
L 35.65	R 508.1	U 71.5	O 4.26
N 89.07	Y 8.92	P 230.82	I 231

ARE YOU SLEEPING?

Spirals, p. 34

Spiral Out

Blocks

1-5	3.64 x 12 =	*43.68*
6-11	2.91 x 39 =	*113.49*
12-16	9.2 x 13 =	*119.6*
17-21	11 x 4.75 =	*52.25*
22-26	27 x 22.7 =	*612.9*
27-31	4.13 x 22 =	*90.86*
32-36	22.3 x 27 =	*602.1*
37-41	0.91 x 94 =	*85.54*
42-46	6.82 x 14 =	*95.48*
47-52	83.2 x 34 =	*2,828.8*
53-58	51.9 x 28 =	*1,453.2*
59-64	688.7 x 12 =	*8,264.4*

Spiral In

Blocks

64-61	1.115 x 4 =	*4.46*
60-56	47.05 x 6 =	*282.3*
55-50	1,354.7 x 4 =	*5,418.8*
49-47	564 x 0.5 =	*282*
46-43	16.9 x 5 =	*84.5*
42-38	189.1 x 5 =	*945.5*
37-32	40.603 x 2 =	*81.206*
31-27	34.045 x 2 =	*68.09*
26-22	3.072 x 3 =	*9.216*
21-17	10.45 x 5 =	*52.25*
16-12	1.3822 x 5 =	*6.911*
11-7	18.862 x 5 =	*94.31*
6-1	93.17 x 2 =	*186.34*

Dialing for Answers, p. 35

1. **109.6** 2. **52.8** 3. **450**
4. **343.98** 5. **504.72** 6. **278.4**
7. **456.75**
PEANUTS

8. **11.75** 9. **385.2** 10. **91.6**
11. **527.25**
A CAR

47

Brain-Bending Labyrinth, p. 36

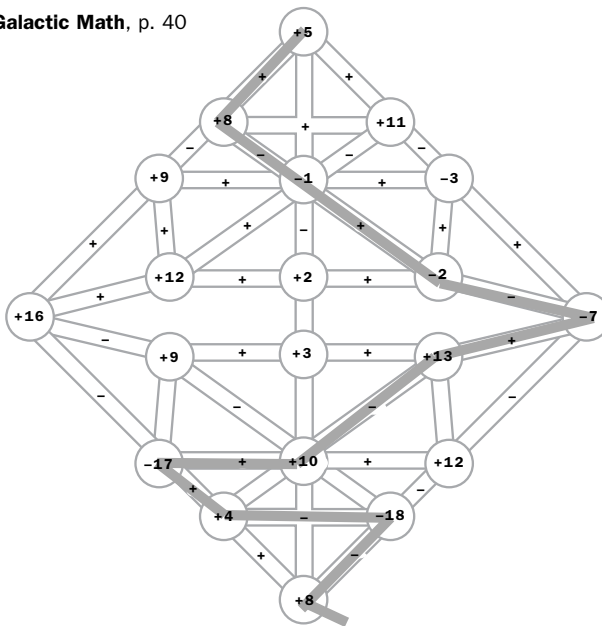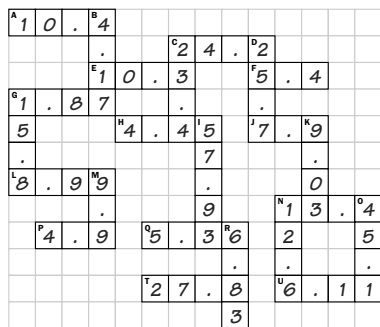|		
0.48	16.38	36.729
	0.5355	4.68
61.404	7.488	5.88
35.42	84.73	38.4
55.12	33.06	38.88
13.0	34.44	101.65
		140.12
29.26	148.83	
	2.45	266.23

What's the Point?, p. 37

A1	0	.	B4					
		.		C2	4	.	D2	
		E1	0	.	3		F5	. 4
G1	.	8	7		.		.	
5			H4	.	4	I5	J7	. K9
.					7			.
L8	.	9	M9		.			0
		.		9		N1	3	. O4
	P4	.	9	Q5	.	3 R6	2	5
					.	.		.
		T2	7	.	8	U6	. 1	1
			3					
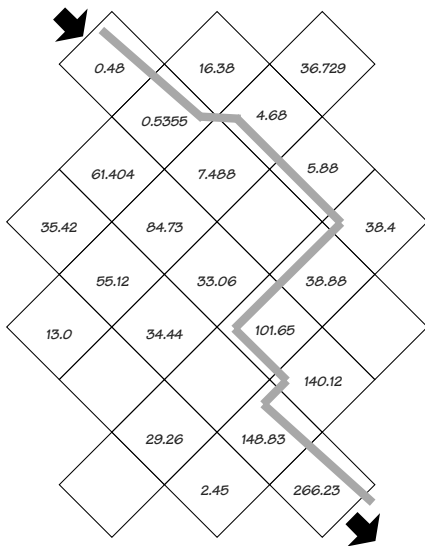
Brain Rattler, p. 38
Order of answers within rows may vary:

.25	25%	$\frac{1}{4}$
$\frac{1}{10}$	10%	0.1
$\frac{33}{100}$	33%	0.33
80%	$\frac{4}{5}$	0.8

Shop Until You Drop, p. 39
Amelia bought a scarf, a miniskirt, a blouse, and a piece of jewelry: $15.99 + $50.14 + $29.99 + $14.99 = $111.11 minus 10% discount ($11.11) = $100.00

Galactic Math, p. 40

Brain Crusher, p. 41

9	+	−8	=	1
−		−		−
-2	+	-1	=	-3
=		=		=
11	+	-7	=	4

−4	+	−7	=	−11
−		−		−
−7	+	1	=	−6
=		=		=
3	+	−8	=	−5

Seven Circles, p. 42

Answer Box 1	Answer Box 2
A= -2	A= -7
B= 3	B= 2
C= -1	C= 9
D= 1	D= -3
E= 2	E= -6
F= 0	F= -8
G= -3	G= 4

Computer Glitch, p. 43

1.
17
−3	−51

2.
−4
11	−44

3.
−7
−15	105

4.
32
−16	−512

5.
−12
4	−48

6.
−17
−9	153

7.
−11
21	−231

8.
13
−19	−247

48