Name _____ Class _____ Date _____

Puzzle 1-1

Comparing and Ordering Integers

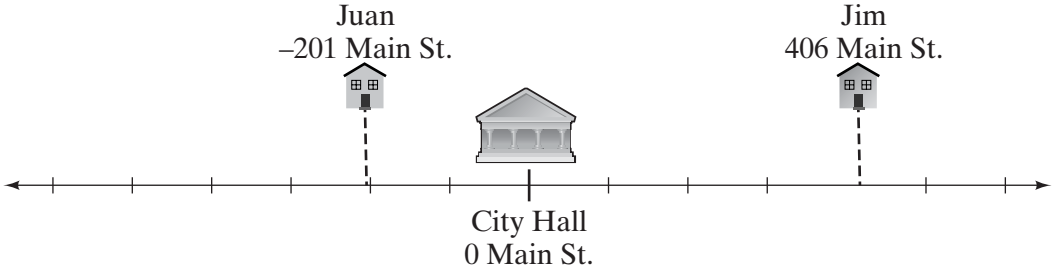
You travel to a strange new city where the mayor has developed a very unusual system for determining house addresses. The address of City Hall is 0 Main St. As you walk east of City Hall, you notice the addresses are increasing positive integers. As you walk west of City Hall, you realize that the addresses are decreasing negative integers. Use the clues below to complete the map of Main Street by drawing each house in the proper place and writing its address.

Hint: Think of the map as a number line.

Clues:

1. Francis's address is the opposite of Jim's.
2. Eduardo's address is 103 greater than Jim's.
3. Henrietta's house is the same distance from City Hall as Juan's house, but in the opposite direction.
4. Thuy's address is 500 greater than Juan's.
5. Vanita's address is 52 greater than Francis's.

Map:



Address List:

Francis: _____ Main St.

Thuy: _____ Main St.

Eduardo: _____ Main St.

Vanita: _____ Main St.

Henrietta: _____ Main St.

Name _____ Class _____ Date _____

Puzzle 1-2

Adding and Subtracting Integers

Complete the square at the right using counting chips and the following steps:

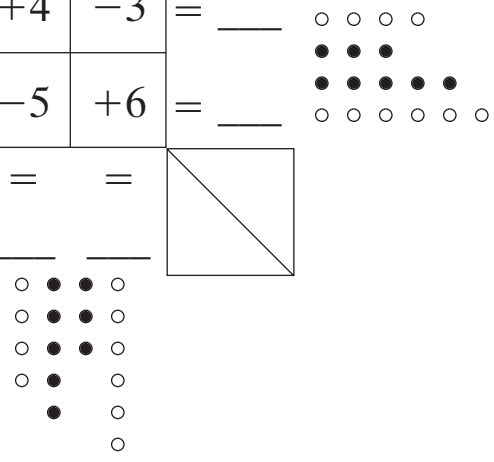
- Add across.
- Add down.
- Add your sums across and down.
- Write your sums in the triangles.

What did you find about the numbers in the triangles?

_____

1.

+4	−3	=	___
−5	+6	=	___
=	=		
___	___		



Complete the squares below. Use the counting chips if necessary.

2.

−8	+4	=	___
+10	−5	=	___
=	=		
___	___		

3.

+7	−7	=	___
−5	+5	=	___
=	=		
___	___		

4.

+2	−8	=	___
+3	+6	=	___
=	=		
___	___		

5.

−1	−2	=	___
−3	−4	=	___
=	=		
___	___		

Find the sum of all the positive integers in the triangles to determine the mystery number.

This number is:

- the number of pairs of ribs in the human body
- part of the title of six movies
- the minimum wind speed of a hurricane on the Beaufort wind force scale

The mystery number is _____!

Name _____ Class _____ Date _____

Puzzle 1-3

Multiplying and Dividing Integers

1. In the following equations, each letter represents a number from 0 to 5. Study the equations. Decide what number the letter represents and write the letter on the line above the number. If correct, you will find the hidden word. Then write each equation as a number sentence to verify your answer.

a. $T + N = R$ _____

b. $N + N = E$ _____

c. $T \times I = T$ _____

d. $N + I = T$ _____

e. $N + W = N$ _____

_____	_____	_____	_____	_____	_____
0	1	2	3	4	5

2. In the following equations, each letter represents one of the numbers from 0 to 4. Decide what number the letter represents and write the letter on the line above the number. If correct, you will find the hidden word. Then write each equation as a number sentence to verify your answer.

a. $E + R = A$ _____

b. $A \times R = A$ _____

c. $A + B = A$ _____

d. $E + E = K$ _____

_____	_____	_____	_____	_____
0	1	2	3	4

3. Make up your own puzzle. Trade with a classmate and solve.

_____

Name _____ Class _____ Date _____

Puzzle 1-4

Fractions and Decimals

How Many Parakeets?

To find the number of parakeets, you will need the following clues.

1. Sam's shoe size is one-quarter the number of minutes it took Li Hua to wash her sheepdog.
2. The number of players on the Lizard City tiddlywinks team is 7 more than the number of rutabaga plants in Carlos's window box.
3. Talasi's golf score was 1 less than 3 times the number of parakeets in the Lizard City Zoo.
4. The number of sour notes Marie hit while playing "Ramona" on her sousaphone was 6 less than 6 times the number of avocados that Max used in his guacamole.
5. If Talasi's golf score is increased by 10, the result is 3 times the number of minutes it took Li Hua to wash her sheepdog.
6. The number of players on the Lizard City tiddlywinks team is 1 less than 4 times the number of avocados that Max used in his guacamole.
7. The number of rutabaga plants in Carlos's window box is 5 less than twice Sam's shoe size.

QUESTION: If Marie hits 24 sour notes while playing "Ramona" on her sousaphone, then how many parakeets are there in the Lizard City Zoo?

To solve, follow these steps:

1. Use clue #4 to find the number of avocados that Max used in his guacamole.
2. Use clue #6 and your answer to the preceding question to find how many players there are on the Lizard City tiddlywinks team.
3. Use clue #2 and your answer to the preceding question to find how many rutabaga plants there are in Carlos's window box.
4. Use clue #7 and your answer to the preceding question to find Sam's shoe size.
5. Use clue #1 and your answer to the preceding question to find how long it took Li Hua to wash her sheepdog.
6. Use clue #5 and your answer to the preceding question to learn Talasi's golf score.
7. Use clue #3 and your answer to the preceding question to find how many parakeets there are in the Lizard City Zoo.

Name _____ Class _____ Date _____

Puzzle 1-5

Rational Numbers

Order the following sets of rational numbers from least to greatest to solve the puzzles below.

1. The first peanuts in the United States were grown in

___ ___ ___ ___ ___ ___ ___ ___.

$\frac{5}{6}$	2.3	0.5	$\frac{5}{8}$	$2\frac{2}{5}$	0.75	$\frac{6}{7}$	1.1
G	I	V	I	A	R	I	N

2. The first American performance of a Beethoven symphony was in Lexington, ___ ___ ___ ___ ___ ___ ___ ___, in 1817.

$\frac{2}{9}$	2.5	0.5	1.1	−0.2	$\frac{3}{4}$	4.7	2.4
E	K	N	U	K	T	Y	C

3. ___ ___ ___ ___ ___ ___ ___ ___ ___ is nicknamed the Badger State.

$4\frac{7}{10}$	1.1	0.75	2.4	$\frac{1}{4}$	$4\frac{1}{5}$	4.9	0	$\frac{7}{10}$
I	O	C	N	I	S	N	W	S

4. The first automobile law was passed by the state of

___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ in 1901.

The speed limit was set at 12 miles per hour.

$\frac{3}{4}$	$\frac{1}{8}$	2.3	$-\frac{2}{9}$	0.25	$\frac{1}{7}$	$\frac{1}{32}$	2.4	0.5	4.2	1.1
T	N	C	C	E	N	O	U	C	T	I

Name _____ Class _____ Date _____

Puzzle 1-6

Adding and Subtracting Rational Numbers

Simplify each expression and match your answers to the numbers in the chart below. The remaining number is the solution to the puzzle.

1. $1.75 - 2.25 + (-0.5) + 3.75$ _____

2. $\frac{9}{8} - \frac{3}{8} + \frac{1}{8} - \frac{3}{8}$ _____

3. $\frac{3}{16} - \frac{1}{16} + \frac{5}{16} - \frac{1}{16}$ _____

4. $-3.2 + 7.6 + (-8.9) - (-9.5)$ _____

5. $\frac{9}{16} - \frac{5}{16} - \frac{3}{16}$ _____

Florida $\frac{1}{16}$	Tennessee 5	Louisiana $\frac{3}{16}$
Mississippi $2\frac{3}{4}$	Arkansas $\frac{3}{8}$	Texas $\frac{1}{2}$

Which state's bird is *not* the mockingbird? _____

Name _____ Class _____ Date _____

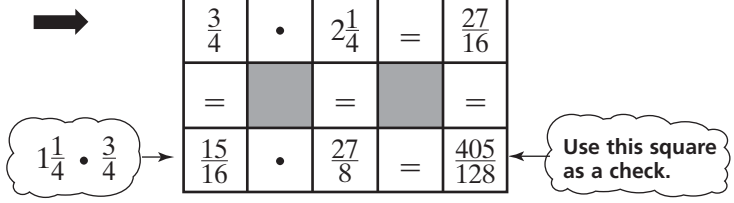
Puzzle 1-7

Multiplying Rational Numbers

Write a fraction or mixed number in each blank square so that the equations across and down are correct. Study the example.

Example:

$1\frac{1}{4}$	•	$1\frac{1}{2}$	=	
•		•		•
$\frac{3}{4}$	•	$2\frac{1}{4}$	=	
=		=		=
	•		=	



$1\frac{1}{4}$	•	$1\frac{1}{2}$	=	$\frac{15}{8}$
•		•		•
$\frac{3}{4}$	•	$2\frac{1}{4}$	=	$\frac{27}{16}$
=		=		=
$\frac{15}{16}$	•	$\frac{27}{8}$	=	$\frac{405}{128}$

1.

$3\frac{1}{8}$	•	$\frac{1}{4}$	=	
•		•		•
$\frac{3}{8}$	•	$2\frac{3}{4}$	=	
=		=		=
	•		=	

2.

$2\frac{1}{3}$	•	$1\frac{5}{6}$	=	
•		•		•
3	•		=	$\frac{2}{3}$
=		=		=
	•		=	

3.

2.7	•		=	3.51
•		•		•
1.8	•	2.2	=	
=		=		=
4.86	•		=	

4.

−0.7	•		=	−0.84
•		•		•
	•		=	−3.15
=		=		=
−1.47	•	−1.8	=	

5. Make a square of your own.

	•		=	
•		•		•
	•		=	
=		=		=
	•		=	

Name _____ Class _____ Date _____

Puzzle 1-8

Dividing Rational Numbers

Frank's suitcase has a lock with a five-digit code. He created the chart below so that if he ever forgot the code, he could re-create it. Use the flowchart with the given operations to determine the code.