Classifying Rational Numbers Activities

The activities involved can be used as homework, assessment/exit tickets, small group instruction, stations, or partner work.

What's Included:

- Station Reflection Page
- Classify Numbers Sort
- Coloring Pages
- Word Problems
- Find the Error Venn Diagrams
- Always, Sometimes, Never Sort
- Classify Numbers Spin and Cover
- Classify Numbers Tic-Tac-Toe
- Classify Numbers Bump It
- Pass the Venn Diagram

- Answer Keys at the End

Name:_____

Classify Numbers Reflections

1. I classified _____ as a _____ because...

2. I did not classify _____ as a _____ because...

3. I classified _____ as a _____ because...

4. I did not classify _____ as a _____ because...

5. I classified _____ as a _____ because...

6. I did not classify _____ as a _____ because...

Name:_____

Classify Numbers Reflections

1. I classified _____ as a _____ because...

2. I did not classify _____ as a _____ because...

3. I classified _____ as a _____ because...

4. I did not classify _____ as a _____ because...

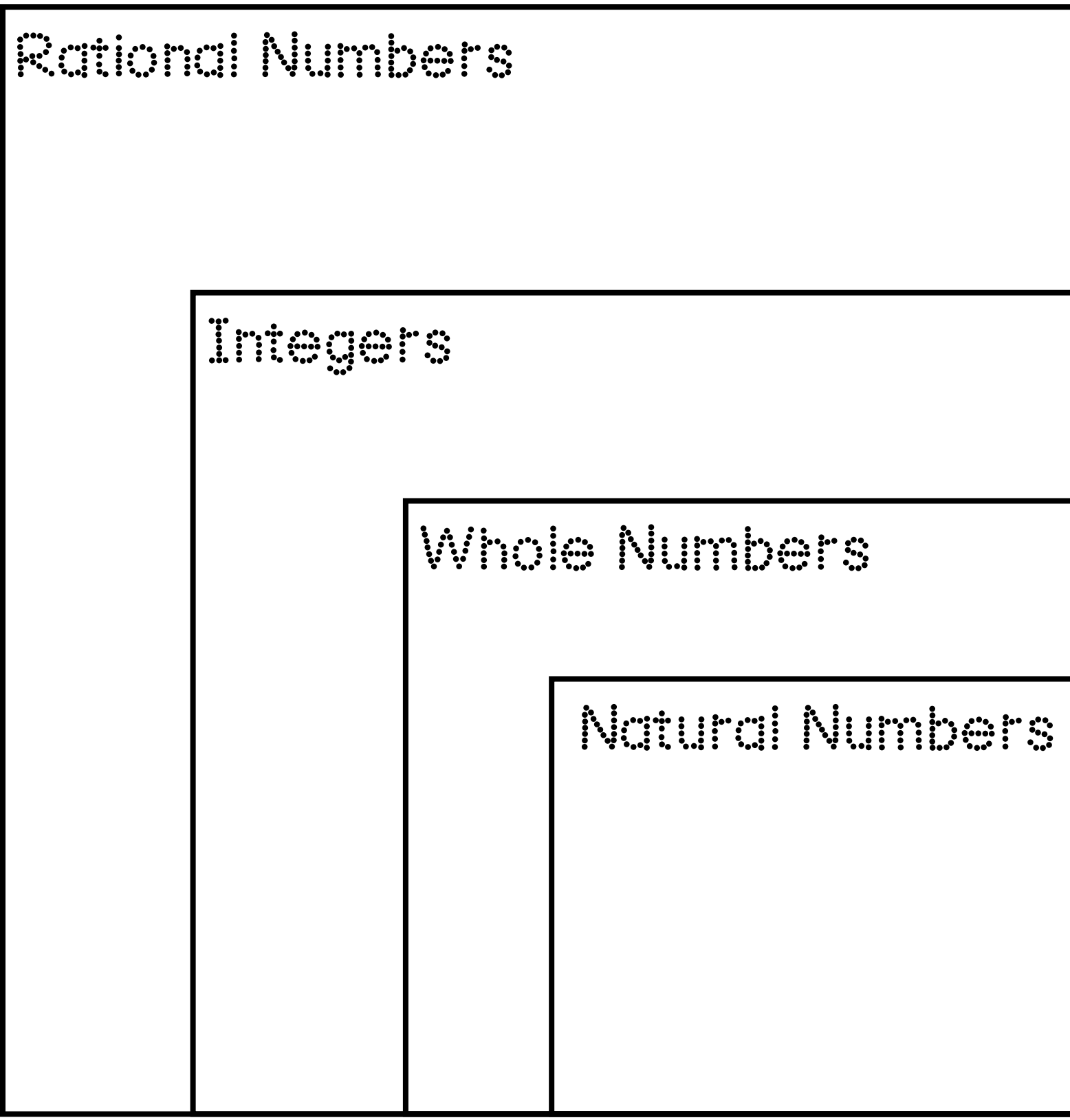
5. I classified _____ as a _____ because...

6. I did not classify _____ as a _____ because...

Name:_____

Classify Numbers

Pull a number from the bag. Write the number in the correct place on the Venn Diagram below.



Classify Numbers

Name:_____

Pull a number from the bag. Write the number in the correct place in the table. Remember that a number can be in more than one classification.

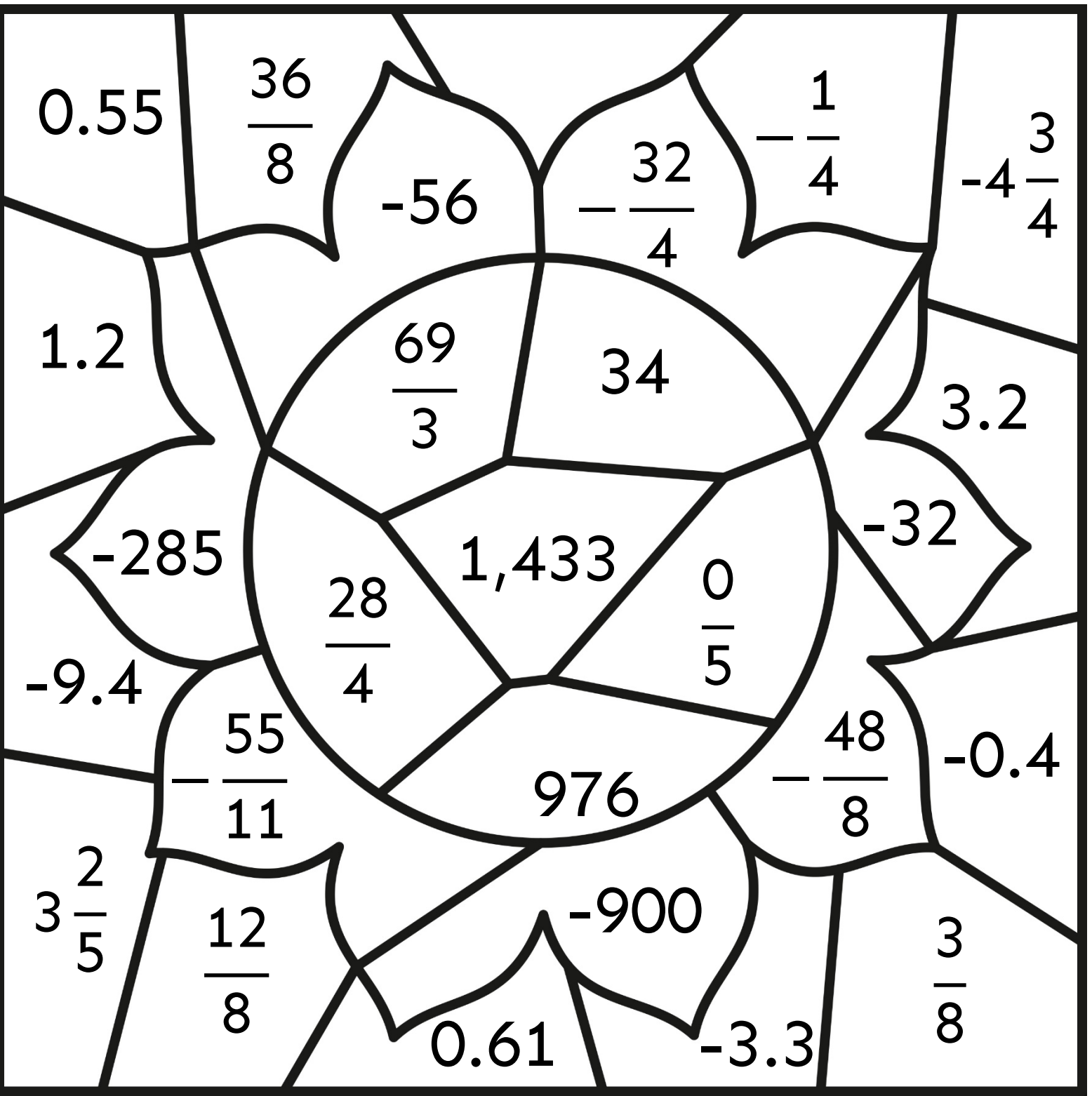
Natural Numbers	Whole Numbers
Integers	**Rational Numbers**

-27	-1.7	1.7
3.5	0	4
$-3\frac{1}{2}$	$\frac{5}{5}$	$\frac{4}{2}$
$\frac{1}{6}$	$\frac{1}{2}$	$\frac{5}{4}$

0.33	0.0	-7
3	2.28	5.34
$\frac{0}{4}$	$2\frac{1}{3}$	$-\frac{20}{4}$
$-1\frac{1}{4}$	$-\frac{48}{4}$	$-\frac{7}{7}$

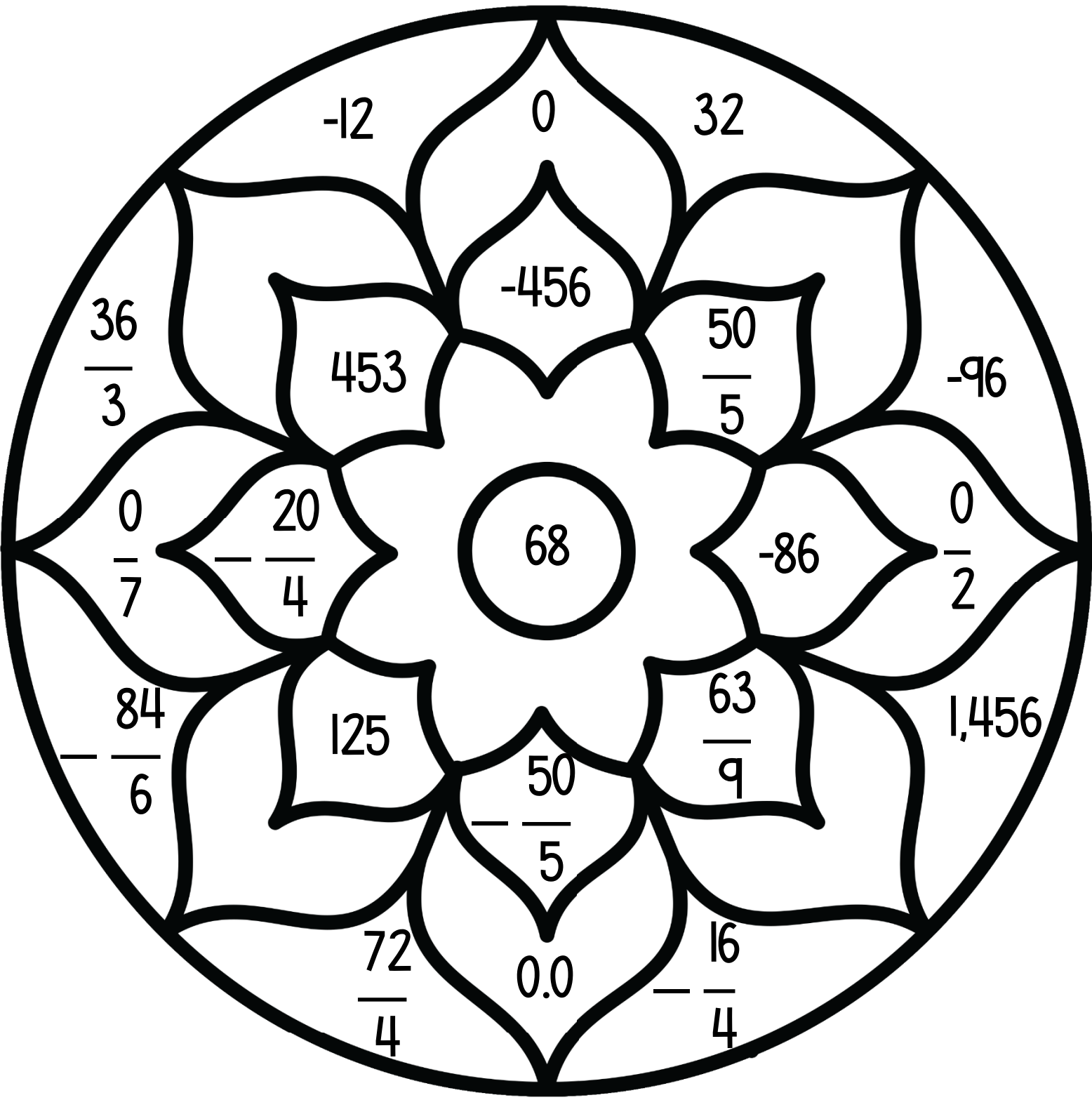
Color by Classification A

Color the numbers according to the following key:
Whole Number, Integer, and Rational Number --Yellow
Integer and Rational Number– Blue
Rational Number only— Green



Color by Classification B

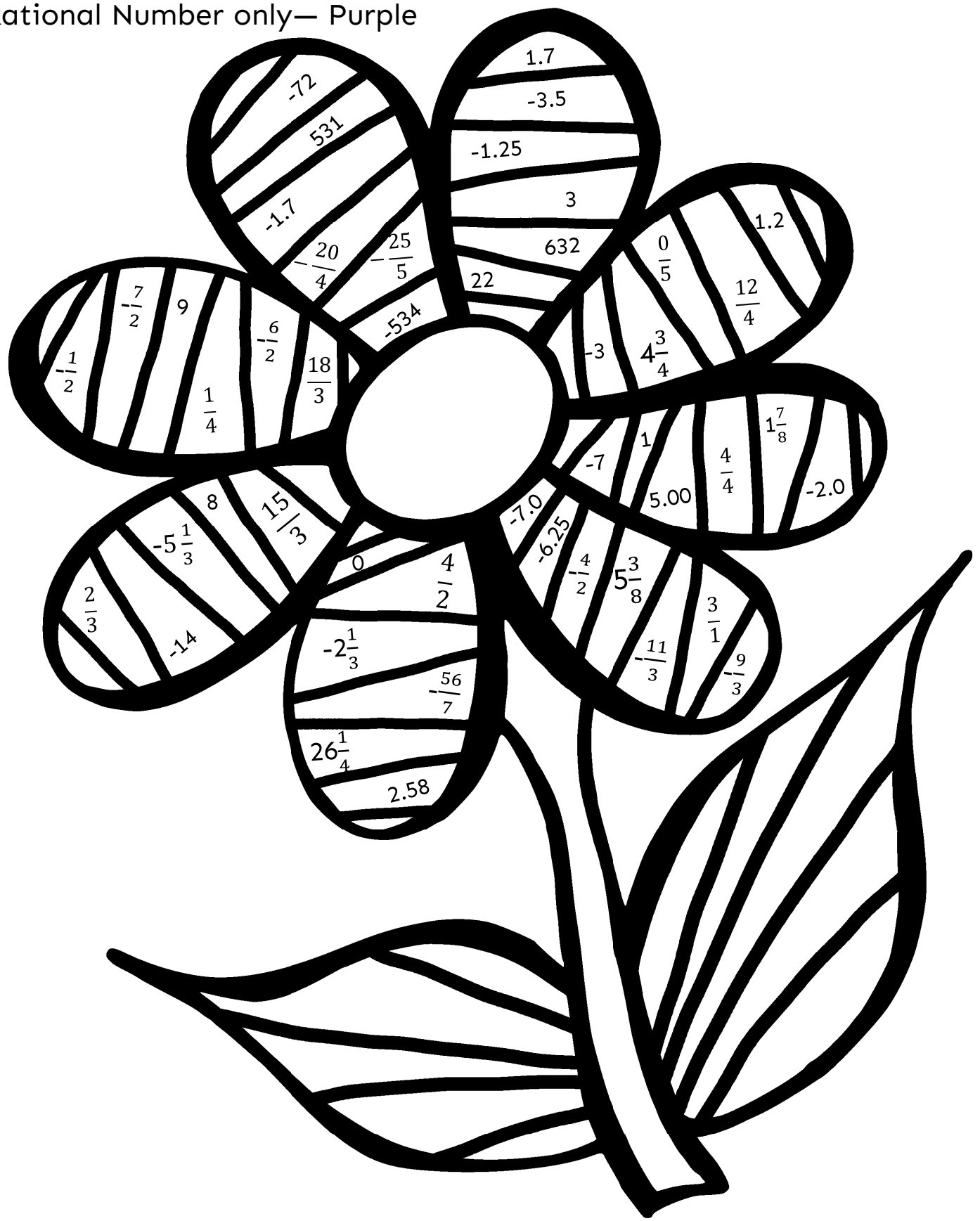
Color the numbers according to the following key:
Natural Number, Whole Number, Integer, Rational Number- Blue
Whole Number, Integer, and Rational Number --Red
Integer and Rational Number– Yellow
Rational Number only— Green



Color by Classification C

Color the numbers according to the following key:
Whole Number, Integer, and Rational Number --Green
Integer and Rational Number– Blue
Rational Number only— Purple

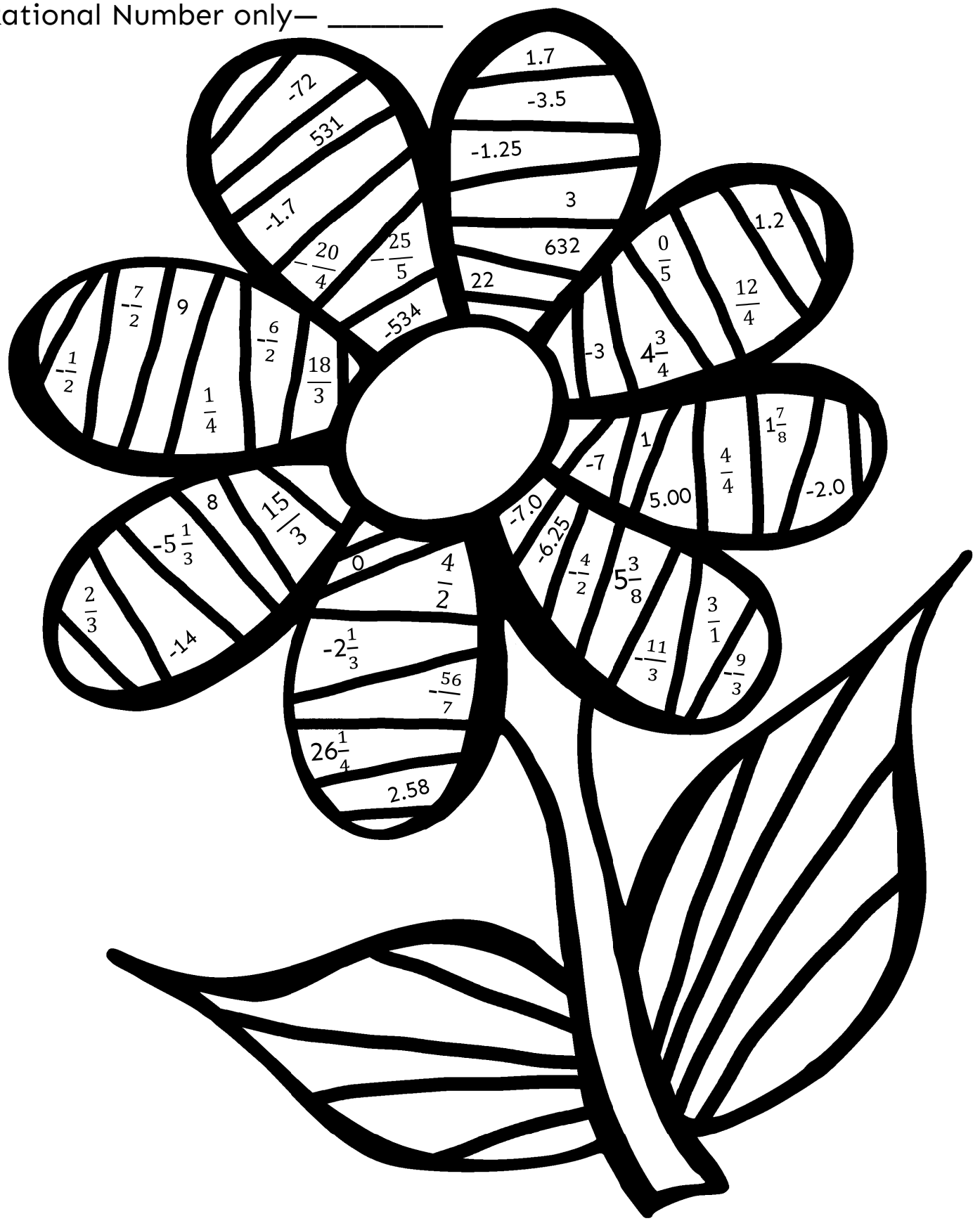
Name:_____



Color by Classification C

Color the numbers according to the colors you choose:
Whole Number, Integer, and Rational Number --_____
Integer and Rational Number– _____
Rational Number only— _____

Name:_____



Name:_____

Classify Rational Numbers

Which of the following numbers is a rational number but not an integer?

A. -4

B. -3.5

C. $-\frac{24}{8}$

D. 25

Which statement is not true?

A. All whole numbers and integers are rational numbers.

B. All rational numbers can be written as a fraction.

C. A whole number cannot be written as a fraction.

D. All integers are whole numbers but not all whole numbers are integers.

Which set of numbers includes 2 integers that are not whole numbers and 2 rational numbers that are not integers?

A. $\frac{10}{5}$, -4, 3.2, $\frac{1}{2}$

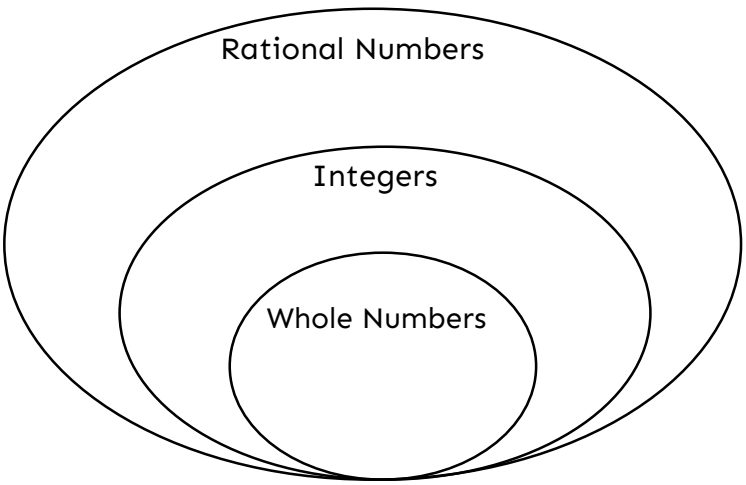
B. -9.34, 2, $\frac{4}{3}$, -8

C. $-\frac{4}{8}$, -4.5, 5, $-\frac{9}{3}$

D. $-\frac{11}{8}$, 4.5, -5, $-\frac{9}{3}$

How does an integer differ from a whole number?

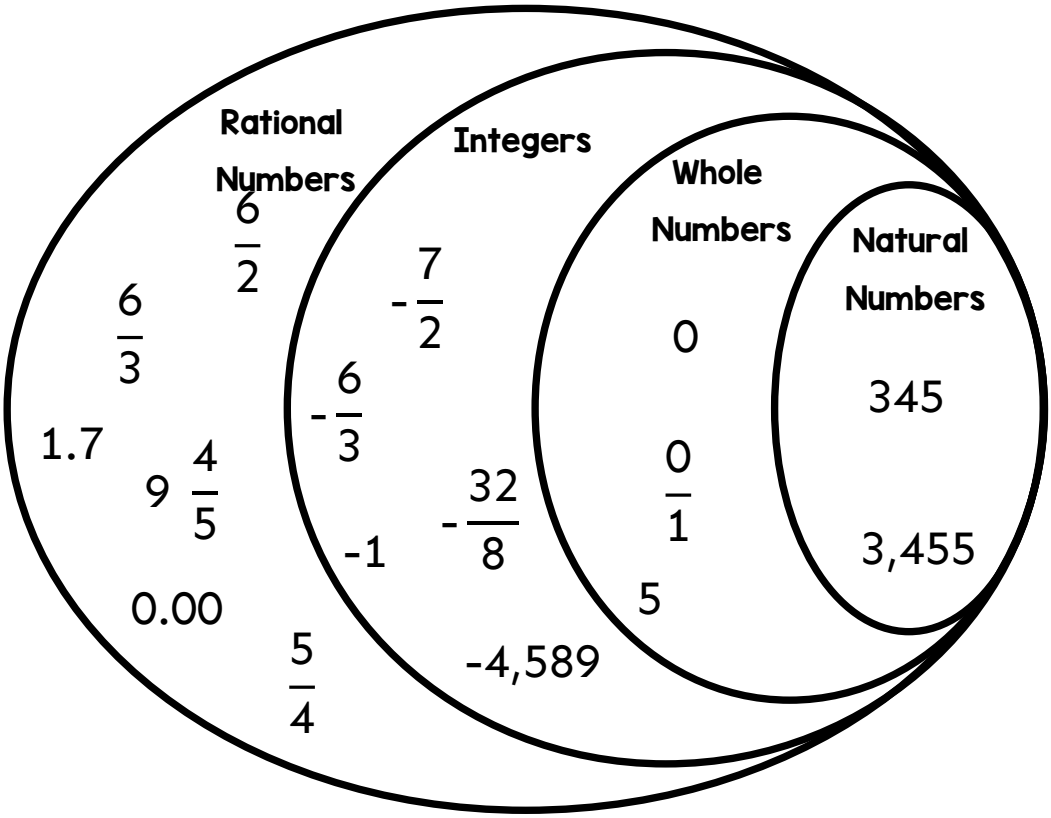
Place $-\frac{12}{9}$ correctly in the Venn Diagram.



Write two whole numbers, two integers that are not whole numbers and two rational numbers that are not integers.

Sheet A Name:_____

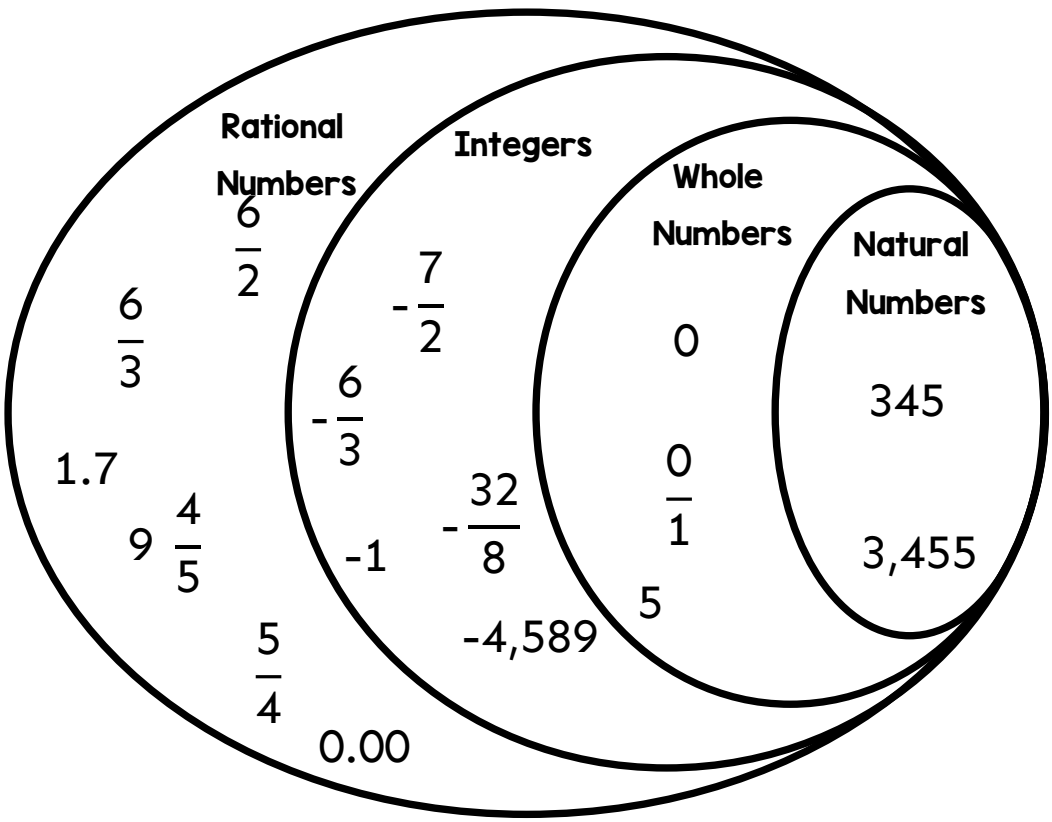
Highlight 5 numbers that are placed incorrectly



Which numbers would you relocate? Why?

Sheet A Name:_____

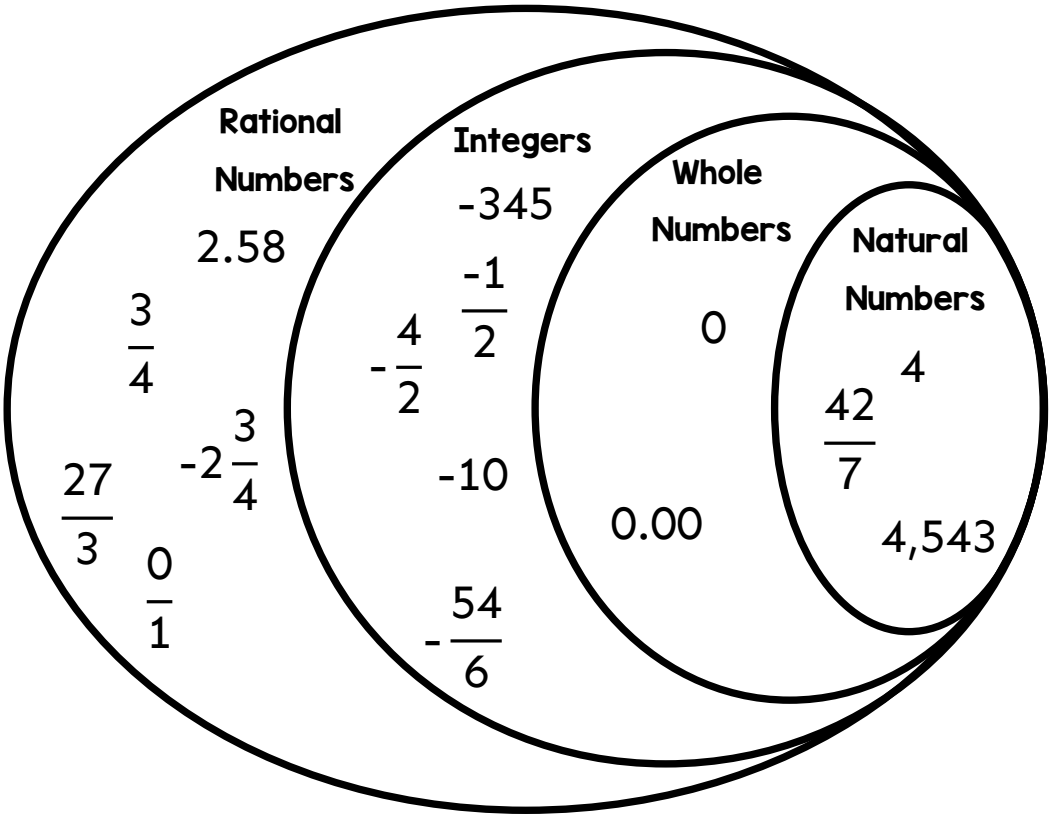
Highlight 5 numbers that are placed incorrectly



Which numbers would you relocate? Why?

Sheet B Name:_____

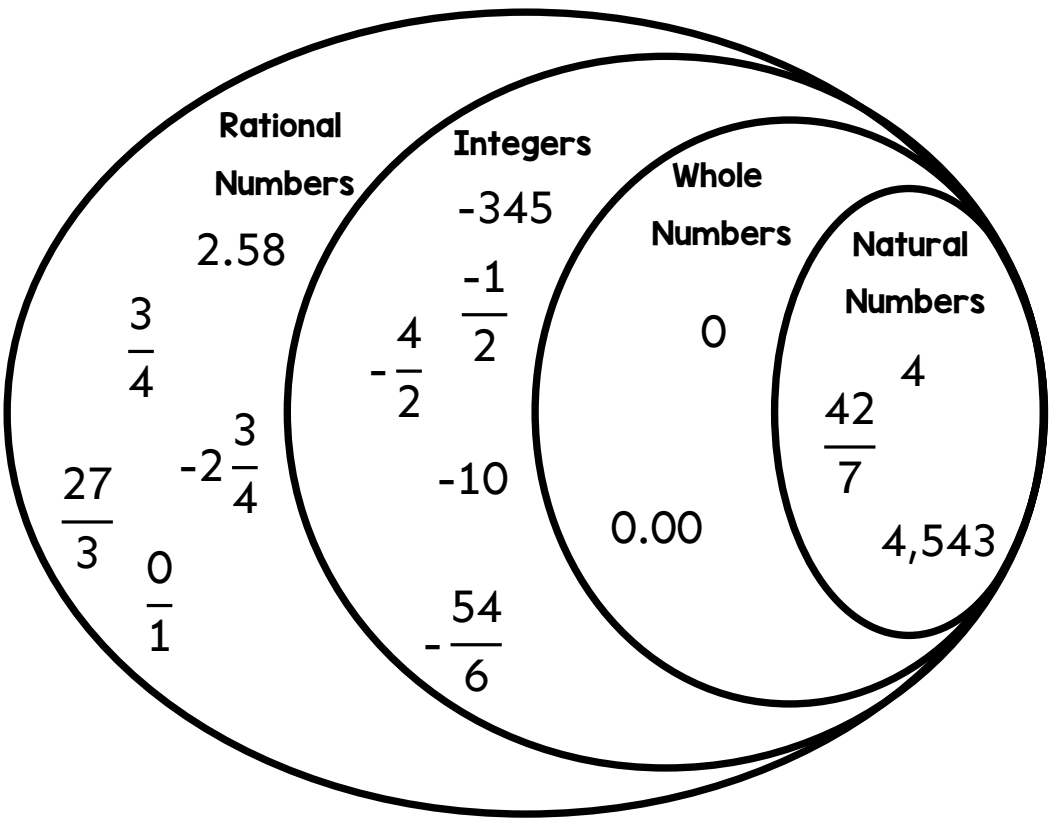
Highlight 3 numbers that are placed incorrectly



Which numbers would you relocate? Why?

Sheet B Name:_____

Highlight 3 numbers that are placed incorrectly



Which numbers would you relocate? Why?

Always, Sometimes, Never Classifying Rational Numbers

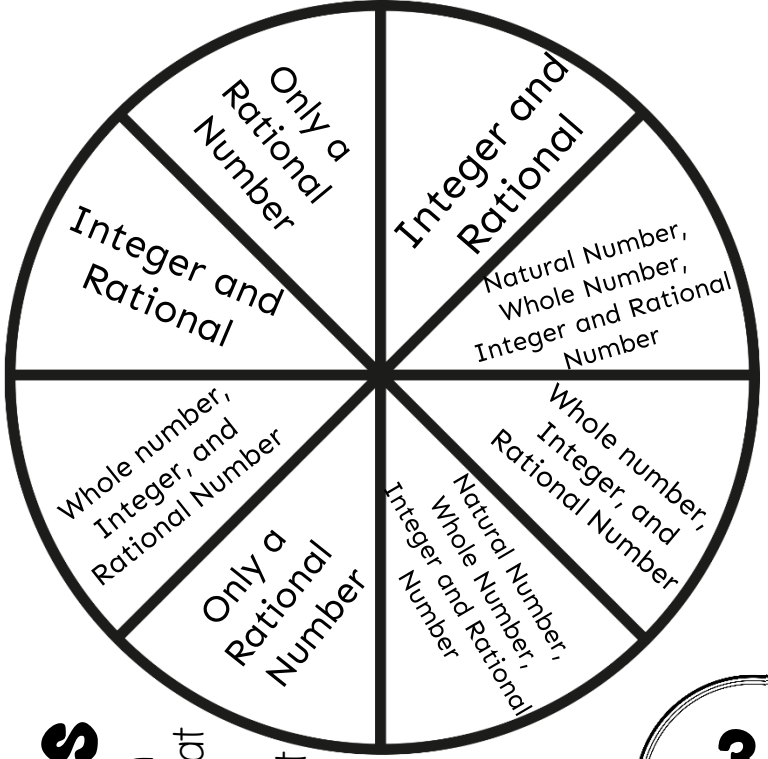
Cut out the cards. Determine if the statement is always true, sometimes true or never true. Glue the statement in the correct place on the table.

Rational numbers are also integers	Whole numbers are integers.	Integers are rational numbers.
A fraction can be a whole number.	Fractions are rational numbers.	Integers are negative numbers.
Rational numbers can be written as a fraction.	Natural numbers are negative numbers.	Whole numbers are positive numbers.
A number can be both an integer and a whole number.	Decimals are rational numbers.	Negative fractions are integers.
A proper fraction is a whole number.	Whole numbers include negative numbers	Improper fractions are whole numbers.

Always	Sometimes	Never

Classify Numbers

Use a pencil and paper clip to spin on the spinner. Find a number that fits what you spin and place a counter on the board. If there isn't a number left that fits the criteria, you lose a turn.



346.5

$\frac{30}{4}$

-73

-5

-1.5

$\frac{3}{4}$

$-\frac{75}{3}$

100

0

-49

$\frac{34}{17}$

-0.45

$\frac{3}{20}$

-0.51

$\frac{0}{4}$

27

-33

$1\frac{1}{5}$

$\frac{9}{6}$

$\frac{0}{12}$

$\frac{96}{4}$

-841

86.6

6

$-\frac{64}{16}$

$\frac{101}{3}$

$\frac{7}{8}$

Classify Numbers Tic-Tac-Toe

1.5	-45	$-\frac{45}{3}$
0	-45.6	-7.1
$\frac{45}{4}$	56	$-\frac{57}{3}$

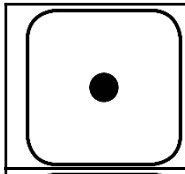
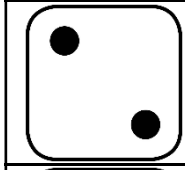
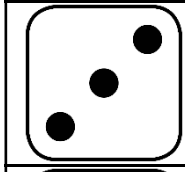
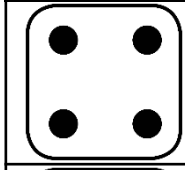
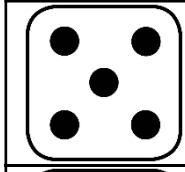
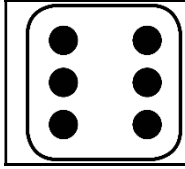
$-\frac{64}{4}$	12.3	57
$\frac{24}{4}$	-34	8.0
$\frac{42}{6}$	$\frac{1}{5}$	-100

$\frac{75}{3}$	5.6	-57
26	-12	$\frac{8}{5}$
$-\frac{4}{5}$	-13	$-\frac{105}{3}$

-7.6	-58	$\frac{32}{4}$
99	$-\frac{72}{4}$	$3\frac{1}{10}$
$4\frac{1}{2}$	$\frac{72}{8}$	55

Materials: Dice, Colored Counters

Roll the Die. Depending on the number you roll, find a number that fits the criteria on the tic-tac-toe board. The player with the most 3-in-a-row wins.

	**Rational Number Only**
	**Whole Number, Integer, and Rational Number**
	**Integer and Rational Number**
	**Rational Number Only**
	**Whole Number, Integer, and Rational Number**
	**Integer and Rational Number**

Classify Numbers Bump It

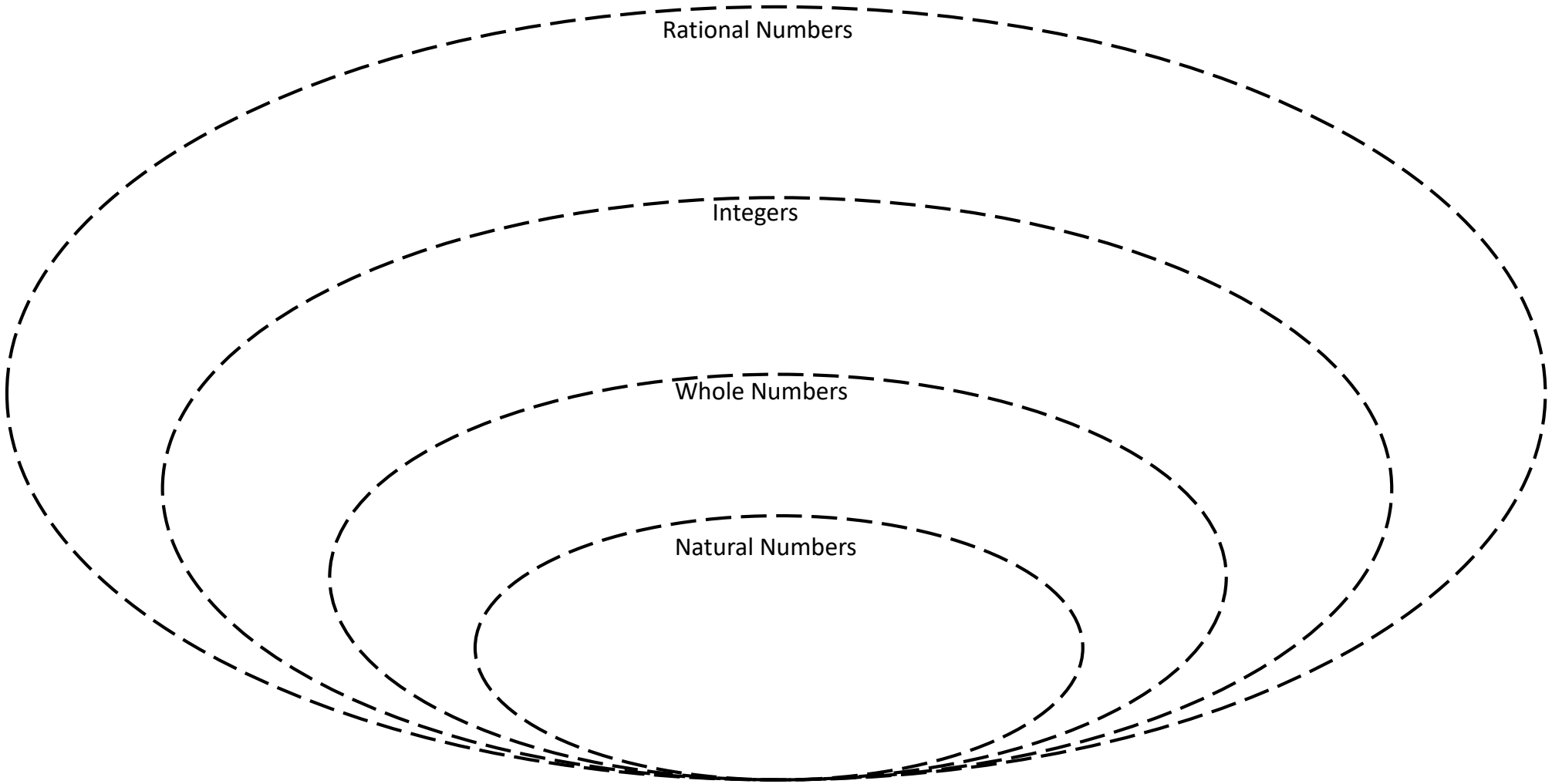
Supplies: Game Piece, Colored Counters and a Die

1. Place game piece on Start. Roll the die and move the correct number of places.
2. Find a number that fits the criteria and place a colored counter on it. The other players will check your work. If everyone agrees you are right, you win the space.
3. You can place a counter and a free space, or you can bump another player's counter and place yours there. You can "lock" in your spot by putting a two-colored counters on a square and no on can bump it.

Start Bump another player's piece	Rational Number Only	Integer and Rational Number	Rational Number Only	Integer and Rational Number	Whole Number, Integer and Rational Number	Rational Number Only
Rational Number Only	**0**	**-579**	**$\frac{50}{4}$**	**-81**	**$\frac{10}{2}$**	Whole Number, Integer and Rational Number
Integer and Rational Number	**-2**	**45**	**-0.004**	**0.35**	**-10**	Integer and Rational Number
Rational Number Only	**5.00**	**$\frac{15}{3}$**	**$\frac{60}{5}$**	**$\frac{3}{4}$**	**-5.87**	Rational Number Only
Whole Number, Integer and Rational Number	**$\frac{5}{8}$**	**17**	**1.6**	**-45.7**	**10.8**	Whole Number, Integer and Rational Number
Whole Number, Integer and Rational Number	**-20**	**$-\frac{84}{7}$**	**100**	**$-\frac{36}{4}$**	**$-\frac{56}{8}$**	Integer and Rational Number
Whole Number, Integer and Rational Number	Rational Number Only	Integer and Rational Number	Rational Number Only	Rational Number Only	Whole Number, Integer and Rational Number	Integer and Rational Number

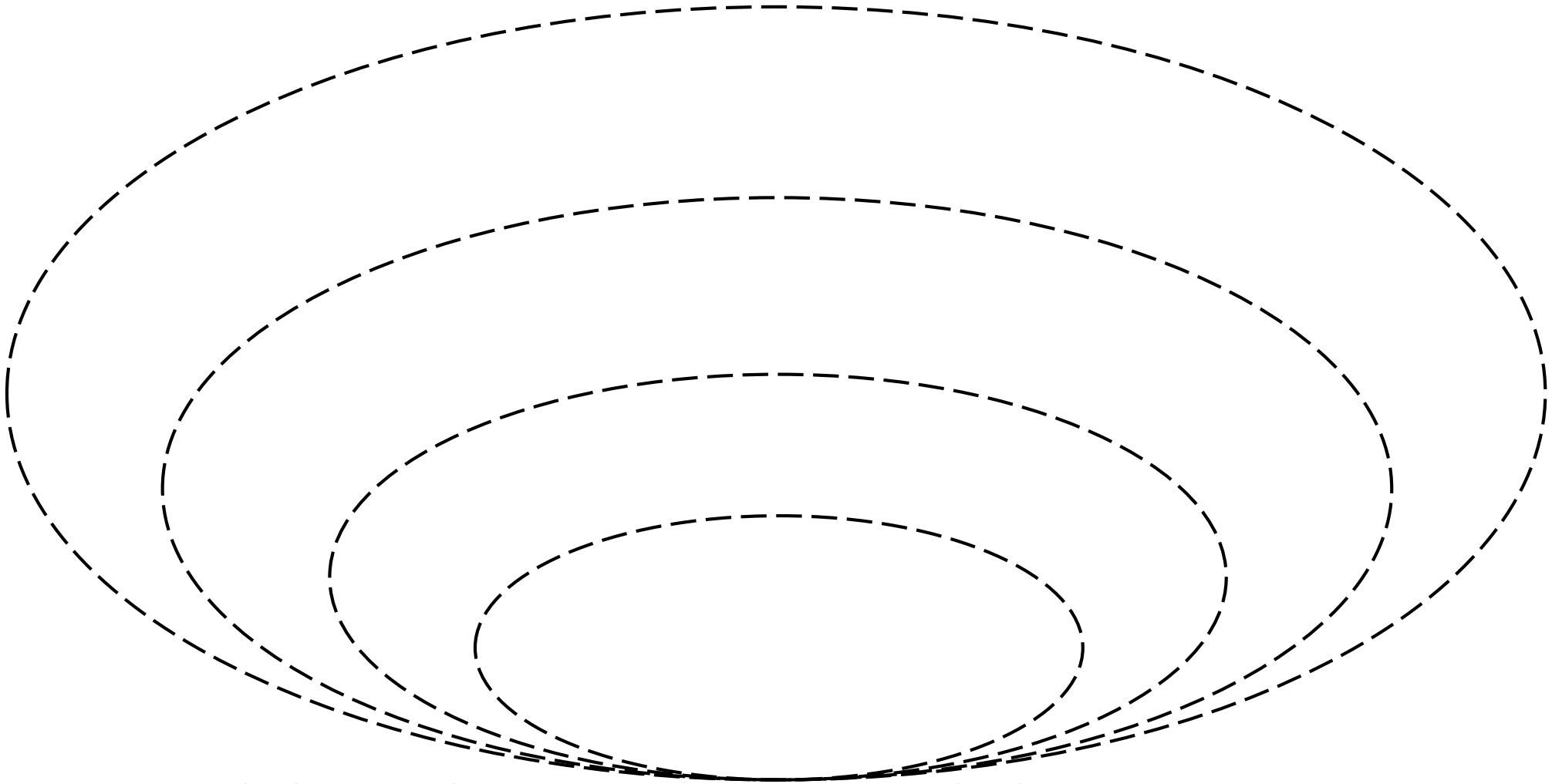
Pass the Venn Diagram

1. Write 10 numbers in the box for the next group to classify. Make sure to include a variety of numbers.
2. After switching papers, place the numbers in the box in the correct place in the Venn Diagram.
3. Switch papers one more time, grade the new paper and make any corrections.



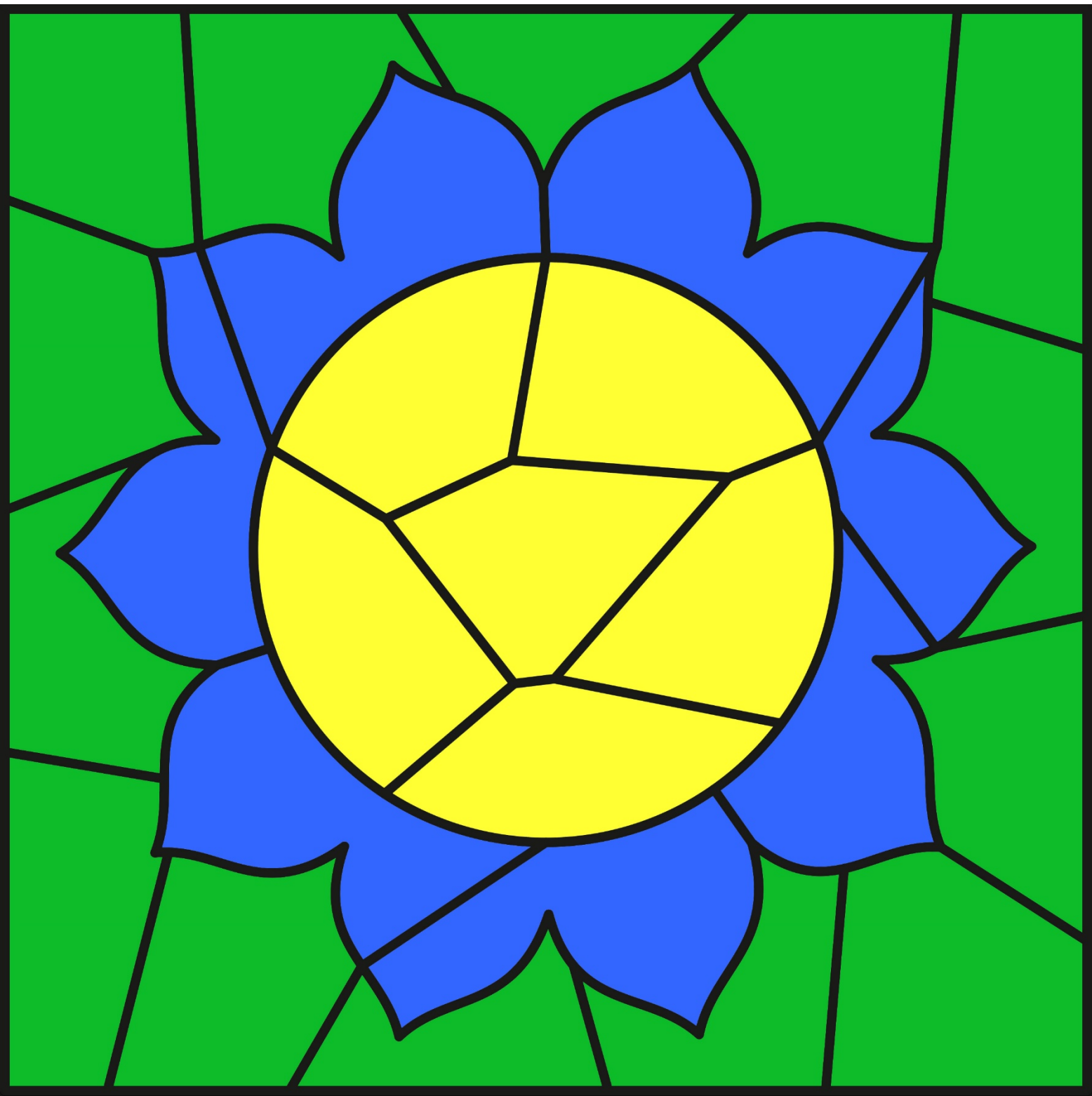
Pass the Venn Diagram

1. Write 10 numbers in the box for the next group to classify. Make sure to include a variety of numbers.
2. After switching papers, place the numbers in the box in the correct place in the Venn Diagram and label each section.
3. Switch papers one more time, grade the new paper and make any corrections.



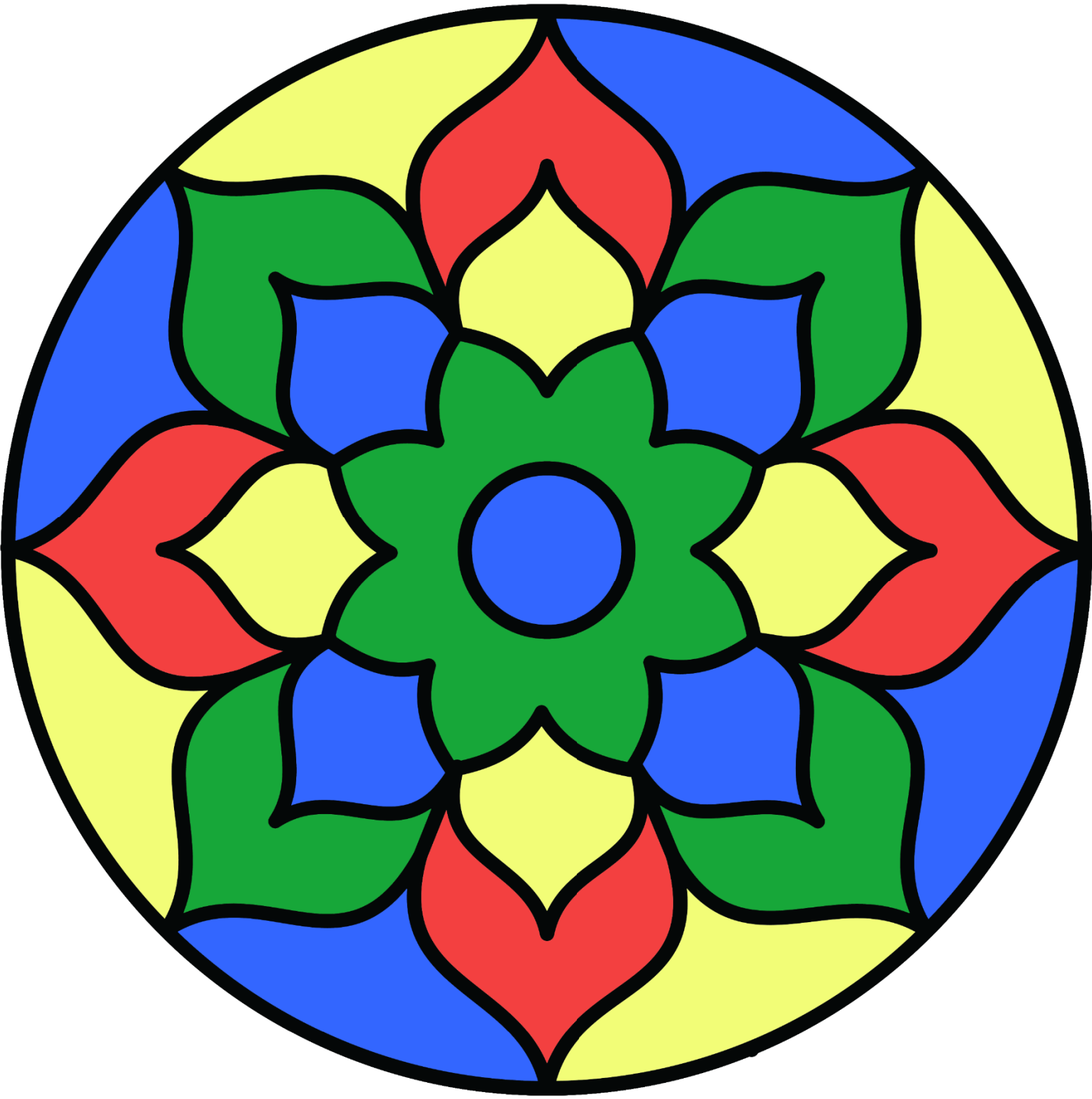
Color by Classification A

Color the numbers according to the following key:
Whole Number, Integer, and Rational Number --Yellow
Integer and Rational Number– Blue
Rational Number only— Green

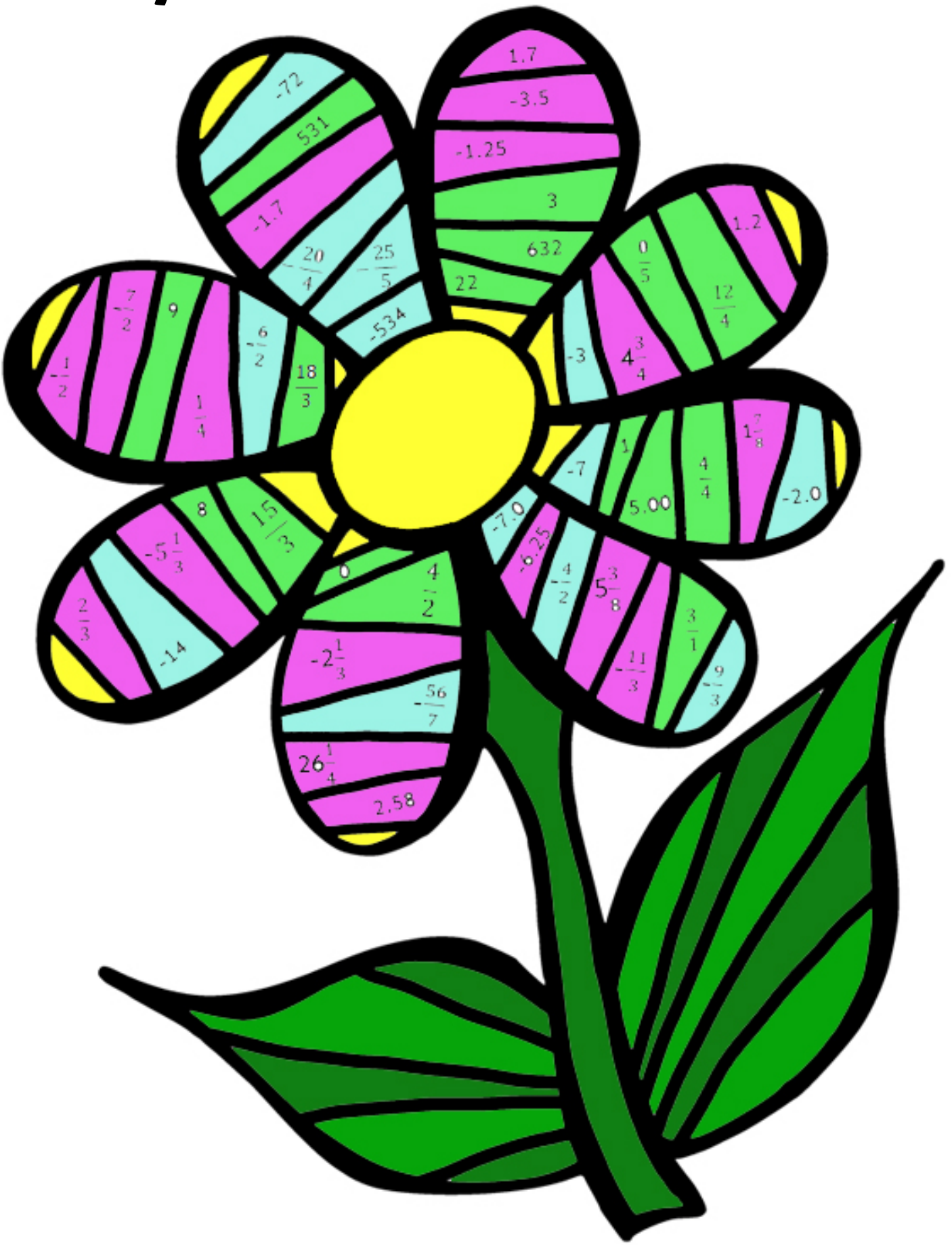


Color by Classification B

Color the numbers according to the following key:
Natural Number, Whole Number, Integer, Rational Number- Blue
Whole Number, Integer, and Rational Number --Red
Integer and Rational Number– Yellow
Rational Number only— Green



Color by Classification C



Always	Sometimes	Never
Rational numbers can be written as a fraction.	Rational numbers are also integers	A proper fraction is a whole number.
Whole numbers are positive numbers.	A fraction can be a whole number.	Natural numbers are negative numbers.
Integers are rational numbers.	A number can be both an integer and a whole number.	Whole numbers include negative numbers
Fractions are rational numbers.	Improper fractions are whole numbers.	
Whole numbers are integers.	Negative fractions are integers.	
	Integers are negative numbers.	
	Decimals are rational numbers.	

Answer Key

0.33 Rational	0.0 Whole	-7 Integer	-27 Integer	-1.7 Rational	1.7 Integer
3 Natural	2.28 Rational	5.34 Rational	3.5 Rational	0 Whole	4 Natural
$\frac{0}{4}$ Whole	$2\frac{1}{3}$ Rational	$-\frac{20}{4}$ Integer	$-3\frac{1}{2}$ Rational	$\frac{5}{5}$ Natural	$\frac{4}{2}$ Natural
$-1\frac{1}{4}$ Rational	$-\frac{48}{4}$ Integer	$-\frac{7}{7}$ Integer	$\frac{1}{6}$ Rational	$\frac{1}{2}$ Integer	$\frac{5}{4}$ Rational

Name:_____

Answer Key

Classify Rational Numbers

Which of the following numbers is a rational number but not an integer?

A. -4

B. -3.5

C. $-\frac{24}{8}$

D. 25

Which statement is not true?

A. All whole numbers and integers are rational numbers.

B. All rational numbers can be written as a fraction.

C. A whole number cannot be written as a fraction.

D. All integers are whole numbers but not all whole numbers are integers.

Which set of numbers includes 2 integers that are not whole numbers and 2 rational numbers that are not integers?

A. $\frac{10}{5}$, -4, 3.2, $\frac{1}{2}$

B. -9.34, 2, $\frac{4}{3}$, -8

C. $-\frac{4}{8}$, -4.5, 5, $-\frac{9}{3}$

D. $-\frac{11}{8}$, 4.5, -5, $-\frac{9}{3}$

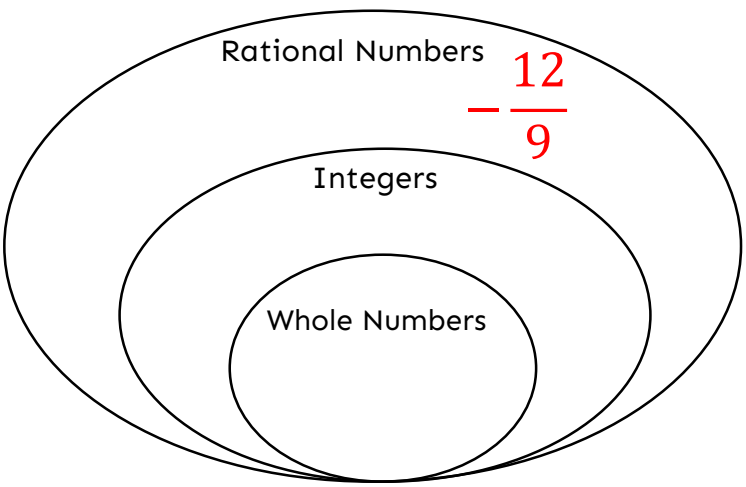
How does an integer differ from a whole number?

Answers may include:

All whole numbers are integers, but not all integers are whole numbers.

Integers are whole numbers and their opposites.

Place $-\frac{12}{9}$ correctly in the Venn Diagram.



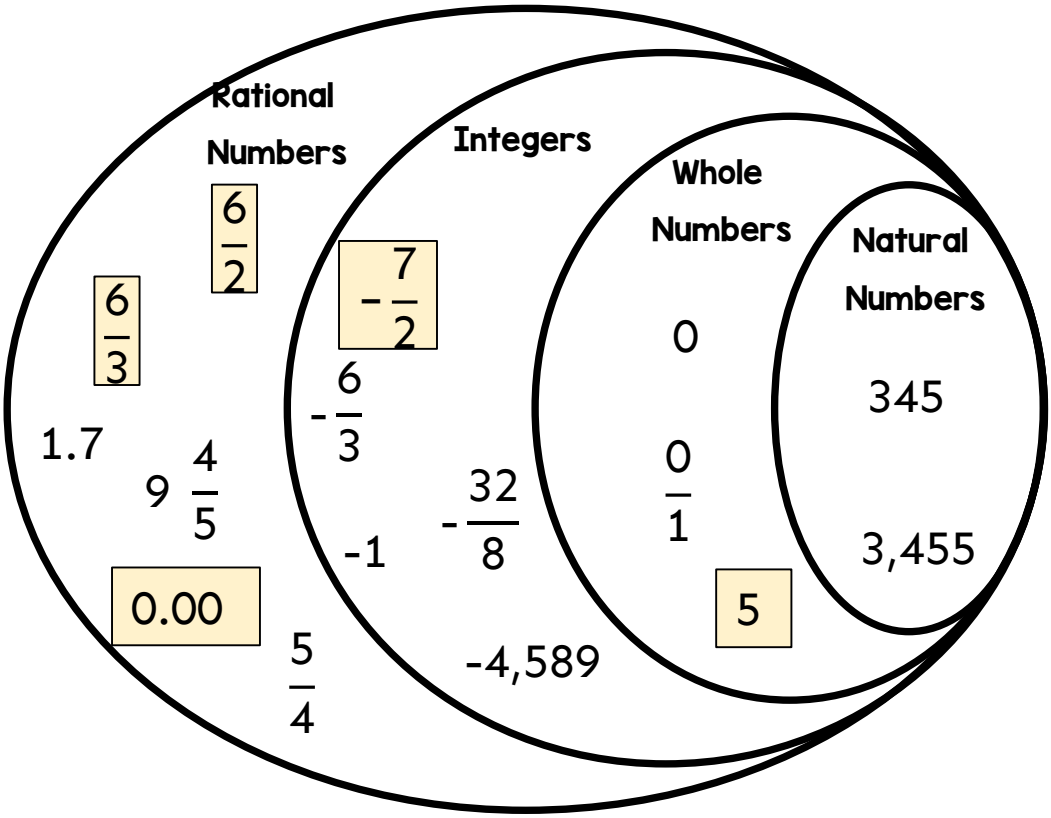
Write two whole numbers, two integers that are not whole numbers and two rational numbers that are not integers.

Answer will vary.

Sheet A

Name:_____ Answer Key

Highlight 5 numbers that are placed incorrectly

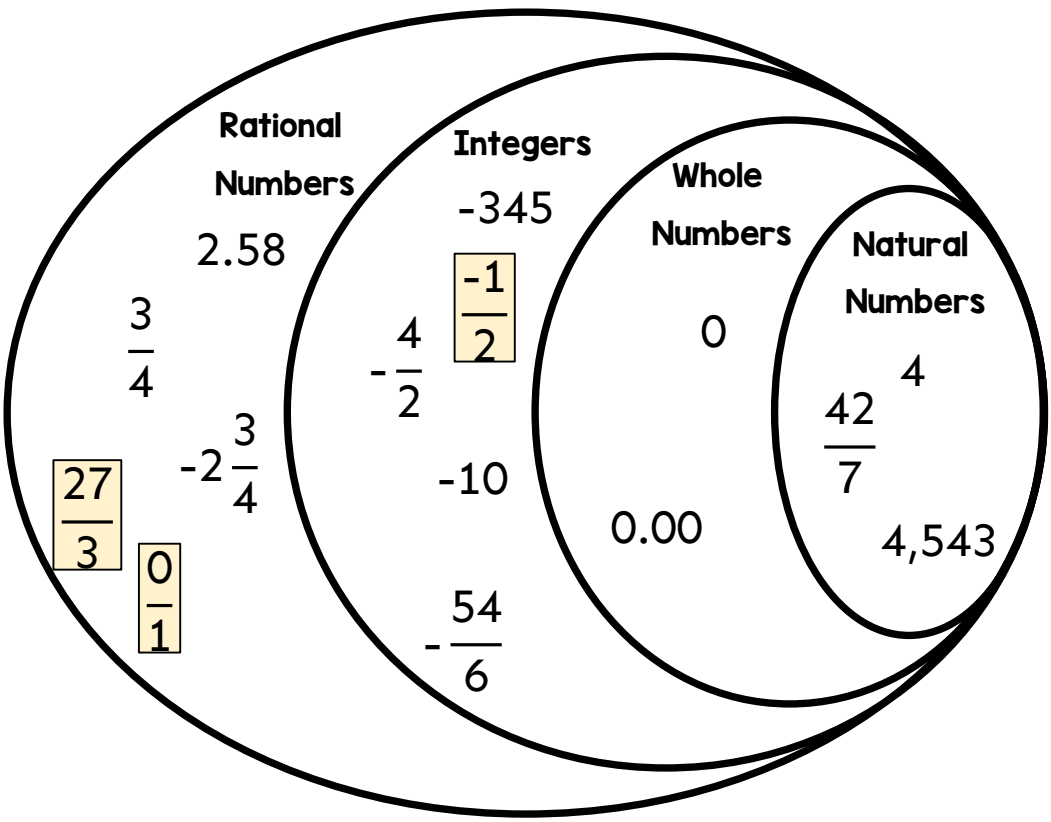


Which numbers would you relocate? Why?

Sheet B

Name:_____

Highlight 3 numbers that are placed incorrectly



Which numbers would you relocate? Why?

teaching in an Organized Mess

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