10

ADDITION & SUBTRACTION OF RATIONAL NUMBERS

Teaching in the Fast Lane

TABLE OF CONTENTS

TO THE TEACHER

- This product is meant to be a no frills, all action tool for cementing the concept of adding and subtracting rational numbers in preparation for standardized testing.
- Each activity can be completed in a variety of ways to fit your classroom needs.
- It was created with the following standards in mind:
- **TEKS**
  - 5.3k add and subtract positive rational numbers fluently
- **Common Core**
  - CCSS.MATH.CONTENT.5.NBT.B.7 Add, subtract, multiply, and divide decimals to the hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

PREP RECOMMENDATIONS

- Each activity is created in black and white to conserve color ink.
  - Using colored paper to differentiate different parts in each activity or the different stations will help students to stay organized.
- If you plan to use the activities for small group or partner activities over time, I would recommend laminating them for durability.

CONTENT VOCABULARY

add	subtract
rational number	less than
greater than	total
rule	relationship
more than	difference
equal amount	each
statement	mixed number
sum	fraction

add

subtract

rational number

less than

greater than

total

rule

relationship

more than

difference

equal amount

each

statement

mixed number

sum

fraction

WORD PROBLEMS

Solve each word problem recording your work and answer.

TEACHER SUGGESTIONS WORD PROBLEMS

- In this activity students are asked to solve word problems adding and subtracting rational numbers.
- This activity can be used in a variety of ways:
  - Small group with teacher guidance
  - A partner activity for practice
  - Independently to assess

Materials

Included:

- Word Problem Cards
- Recording Sheet
- Answer Key

Not Included:

- Pencil

1

A new crib is on sale for $249.97. The original price was $329.89. How much can you save by buying the crib while it is on sale?

2

Greg is going for a 1 mile run. He jogs for ⅓ of a mile, then sprints for ⅙ of a mile, before walking the rest of the way. How far did he walk?

3

Hailee collected 457 BoxTops. While cutting them out she discovered that 89 of them have expired. How many BoxTops are not expired?

4

A concert ticket costs $47 and a parking pass costs $22. How much would it cost for three tickets and one parking pass?

5

Your cell phone bill for a month is $154.28 for a family of 4. You have a coupon for $10 off any bill over $150. How much will your bill be after the coupon?

6

April's hair is 12½ inches long. She asks her hair stylist to cut off 2⅓ inches. How long will her hair be after the haircut?

7

Suzy has $127.50 to spend on groceries. So far she has spent $15.75 on produce and $29.35 on dry goods. How much more does she have in her budget?

8

Andrew has earned 17,564 airline miles. He buys a ticket using 13,987 miles. How many airline miles does he have left?

9

A length of red rope is 3⅖ feet long. A length of blue rope is ⅘ of a foot longer than the red rope. How long is the blue rope?

10

Christopher is 1½ feet shorter than his brother Brian. If Brian is 5⅘ feet tall, how tall is Christopher?

11

Brian is buying art supplies. He buy a brush for $[illegible], a paint set for $7.9[illegible] and a canvas for $[illegible]5.[illegible]5. How much did he spend on the supplies?

12

18,564 people visited the zoo on Monday, 12,377 people visited on Tuesday, and 34,201 people visited on Wednesday. How many more people visited the zoo on Wednesday than Monday and Tuesday combined?

Name _____ #_____ Date_____

WORD PROBLEMS RESPONSE SHEET

Solve each word problem recording your work and answers.

1	2	3
4	5	6

more on the back

Name _____ #_____ Date_____

WORD PROBLEMS RESPONSE SHEET

Solve each word problem recording your work and answers.

7	8	9
10	11	12

WORD PROBLEMS ANSWER KEY

1 $79.92	**2** ½ mile	**3** 368 BoxTops	**4** $1[illegible]
5 $144.28	**6** 10⅙ inches	**7** $82.40	**8** 3,577 miles
9 4⅕ feet	**10** $4\ ^{3}/_{10}$ feet	**11** $26.72	**12** 3,260 people

USING A TABLE

Use the information in the tables to answer the questions.

TEACHER SUGGESTIONS USING A TABLE

- In this activity students are asked to use the information provided in table to solve problems adding and subtracting rational numbers. This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

Materials

Included:
- Table and Question Cards
- Recording Sheet
- Answer Key

Not Included:
- Pencil

LENGTHS OF ROPE (IN M)	
Red	$4\frac{1}{3}$
Blue	$3\frac{5}{6}$
Yellow	$4\frac{2}{3}$
Orange	$3\frac{5}{8}$

1. How much longer is the yellow rope than the red rope?

2. What is the combined length of the yellow and blue rope?

3. How much longer is the blue rope than the orange rope?

COST OF FRUIT (PER LB)	
Apples	$1.29
Bananas	$0.[illegible]
Grapes	$2.[illegible]5
Blueberries	$2.98

1. How much would it cost to buy two pounds of blueberries and one pound of bananas?

2. How much more would a pound of grapes cost than a pound of apples?

3. What is the combined cost of one pound of each type of fruit?

RACE TRACK LAP TIMES (IN S)	
Lap 1	41
Lap 2	39
Lap 3	37
Lap 4	39
Lap 5	36

1. How much faster was the fastest lap than the slowest lap?

2. What is the combined time of all the laps?

3. What is the combined time of the two fastest laps?

PACKAGES DELIVERED	
Monday	209
Tuesday	924
Wednesday	192
Thursday	187
Friday	678

1. How many more packages were delivered on Tuesday than Friday?

2. How many more packages were delivered on Friday than on Wednesday and Thursday combined?

3. How many more packages were delivered on Monday than on Wednesday?

Name _____ #_____ Date_____

USING TABLES RESPONSE SHEET

Use the table to solve the questions and record your responses below.

LENGTHS OF ROPE		COST OF FRUIT	
1		1	
2		2	
3		3	
LAP TIMES		**PACKAGES DELIVERED**	
1		1	
2		2	
3		3	

USING TABLES ANSWER KEY

LENGTHS OF ROPE		COST OF FRUIT	
1	⅓ meters	1	$6.3[illegible]
2	8½ meters	2	96[illegible]
3	5/24 meters	3	$6.91

LAP TIMES		PACKAGES DELIVERED	
1	[illegible] seconds	1	246 more packages
2	192 seconds or 3 min 12 seconds	2	299 more packages
3	73 seconds or 1 min 13 seconds	3	17 more packages

FRACTION ACTION

Use the dice to roll two fractions and an operation, then complete an equation.

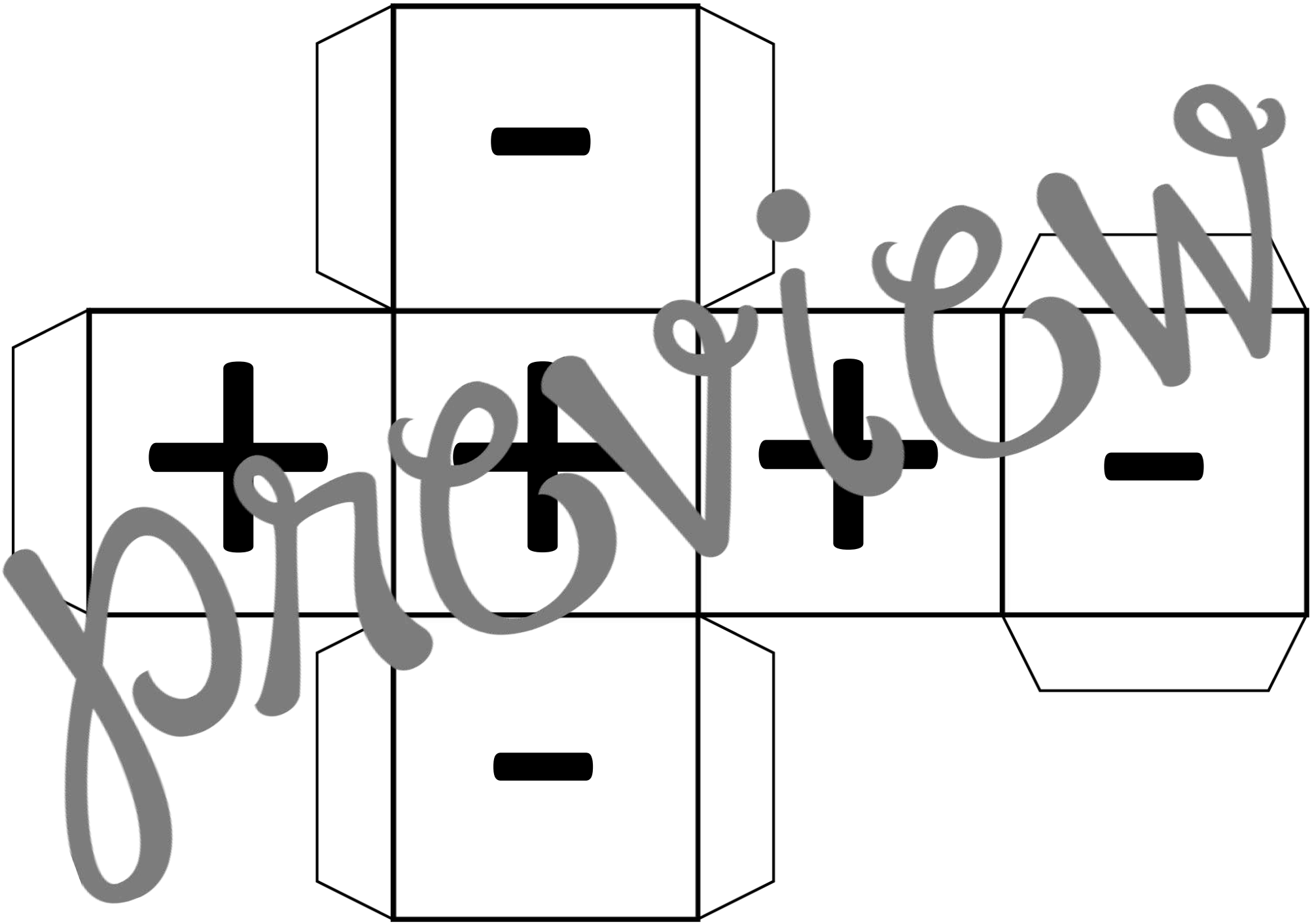
TEACHER SUGGESTIONS
FRACTION ACTION

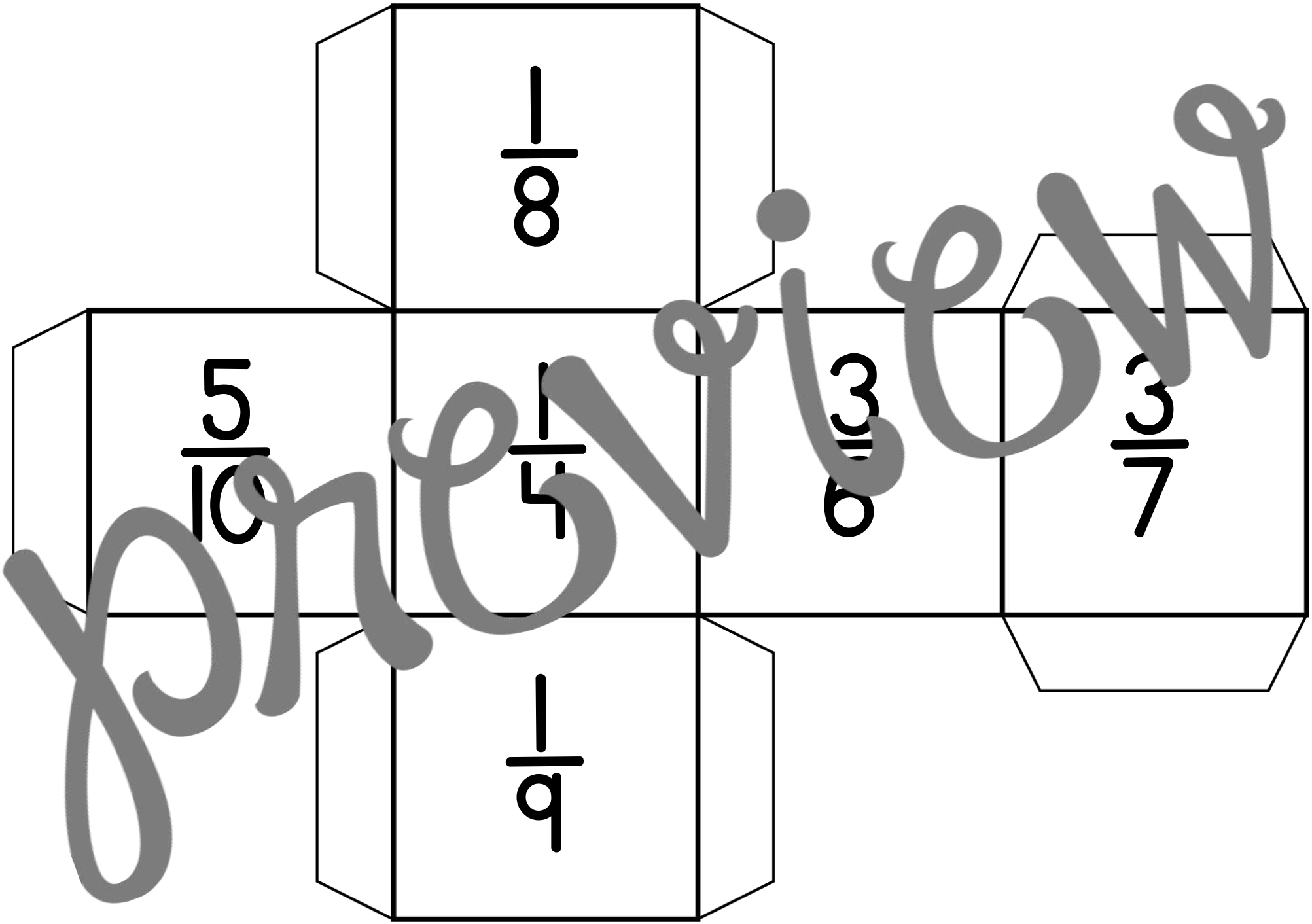
- In this activity students are asked to roll dice to determine fractions to add or subtract.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

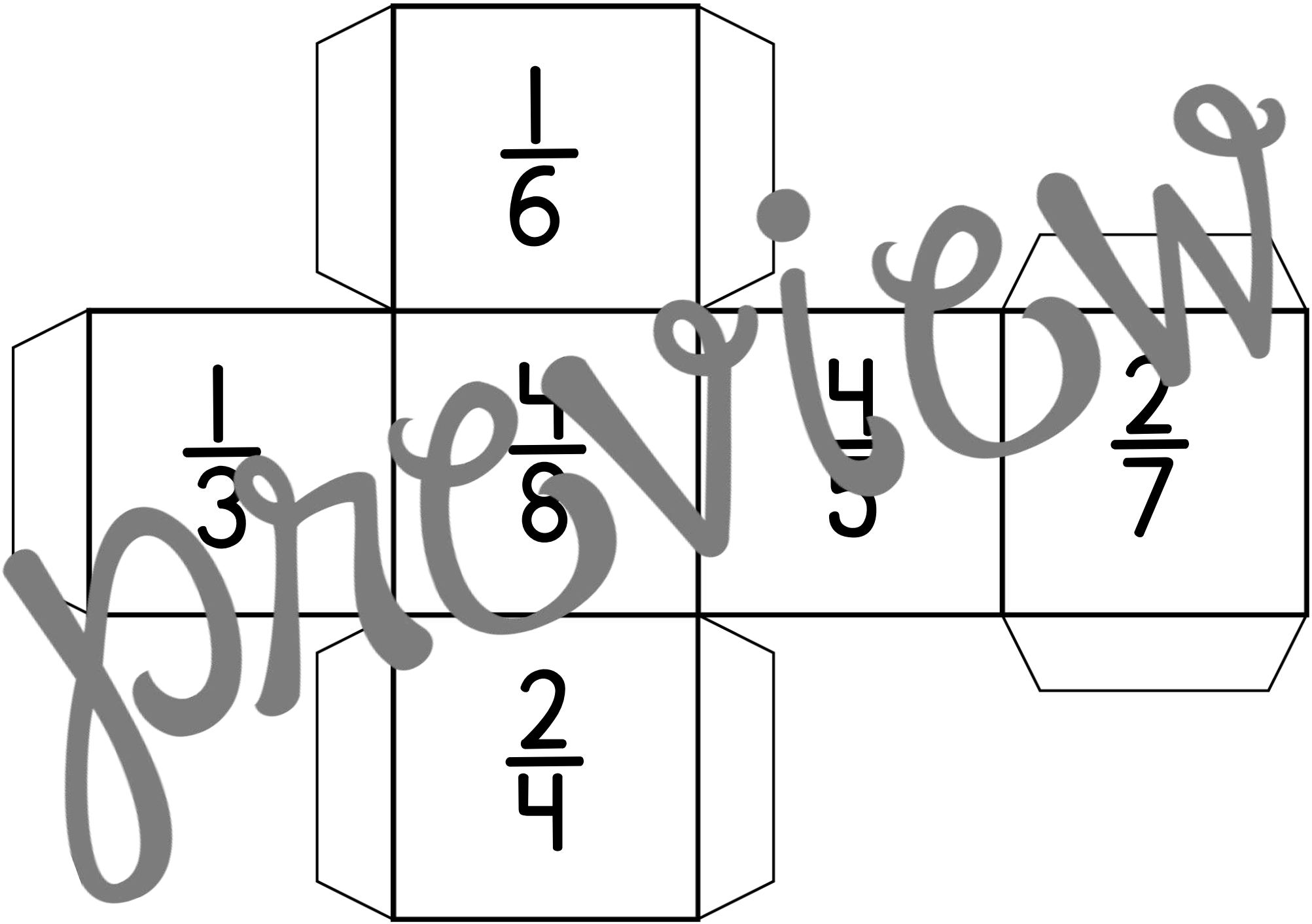
Materials

Included:
- Fraction Dice
- Operation Die
- Recording Sheet

Not Included:
- Pencil
- Answer Key







Name _____ #_____ Date_____

FRACTION ACTION RESPONSE SHEET

Use the dice to roll two fractions and an operation, then complete an equation.

1	2	3
4	5	6

more on the back

Name _____ #_____ Date_____

FRACTION ACTION RESPONSE SHEET

Use the dice to roll two fractions and an operation, then complete an equation.

7	8	9
10	11	12

BOARD GAME

Play a game to add & subtract rational numbers.

TEACHER SUGGESTIONS BOARD GAME

- In this activity students are asked to play a board game that requires them to divide decimals.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

Materials

Included:
- Game Rules
- Game Board
- Problem Cards
- Die (can use regular die instead)
- Answer Key for Problem Cards

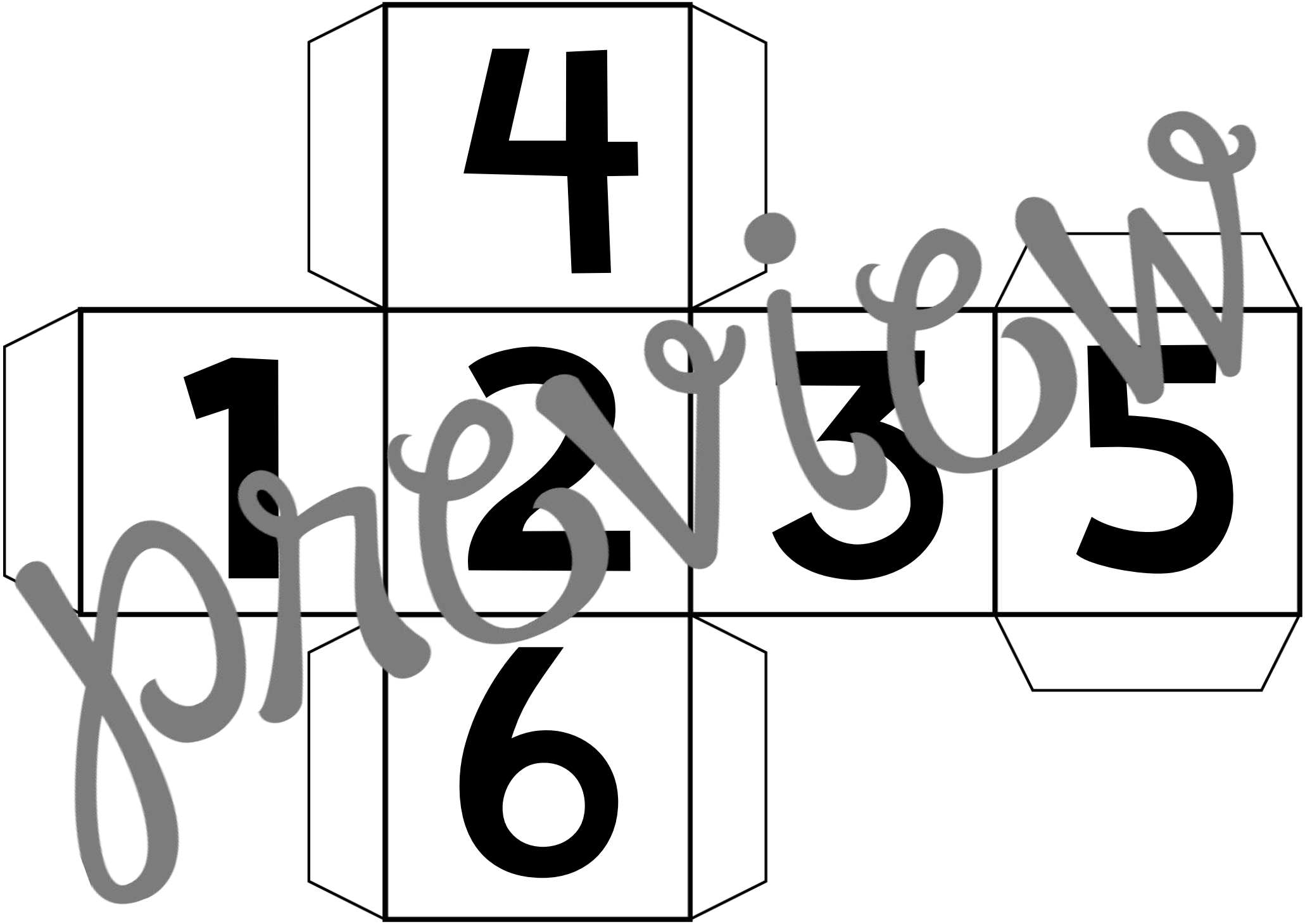
Not Included:
- Pencil

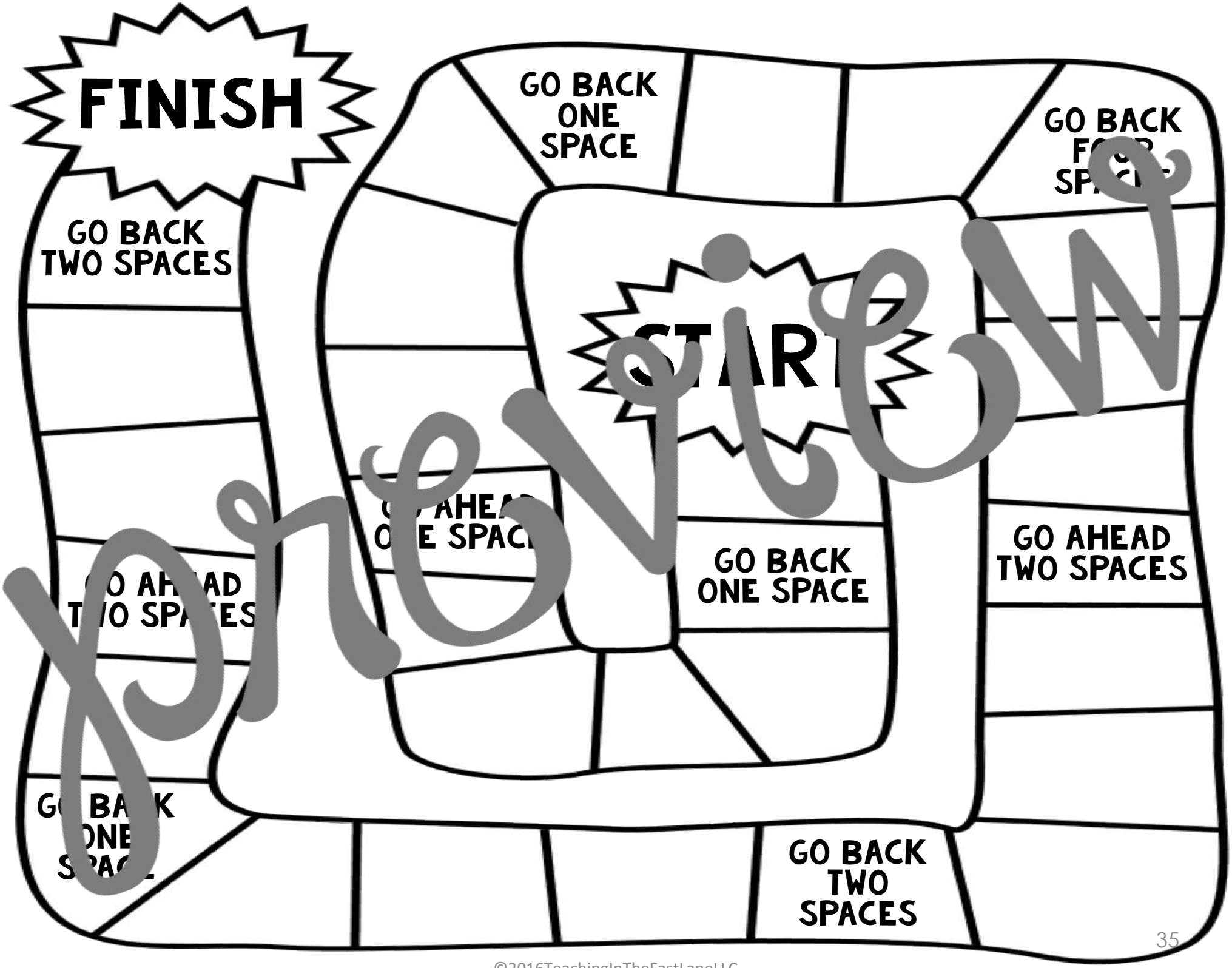
BOARD GAME DIRECTIONS

- Roll the die to determine who goes first
  - The player who rolls the highest number goes first and then rotate clockwise (to the left)
- Pull a "Problem Card" and solve
  - Another player checks your answer
    - If correct, you roll the die and move forward that many spaces.
      If incorrect, the next player takes their turn.

If you land on a special space, follow the directions on the space.

Continue play until a player reaches the finish.





1 $\frac{3}{8}+\frac{3}{10}=$	**2** $\frac{6}{8}-\frac{1}{10}=$	**3** $\frac{5}{9}+\frac{5}{10}=$	**4** $\frac{8}{10}-\frac{1}{6}=$
5 4.3+6.9=	**6** 15.2-12.8=	**7** 11.9.8[illegible]=	**8** 2.34-12.8=
9 [illegible]$+\frac{1}{7}=$	**10** $\frac{3}{[illegible]}-\frac{2}{7}=$	**11** $\frac{1}{3}+\frac{2}{4}=$	**12** $\frac{4}{6}-\frac{2}{5}=$
13 321-298=	**14** 1,460+234=	**16** 297-198=	**16** 329+699=

BOARD GAME PROBLEM CARDS ANSWER KEY

1 27/40	**2** 13/20	**3** 1.1/18	**4** 27/40
5 11.2	**6** 2.4	**7** 1.13	**8** 15.14
9 17/24	**10** 3/14	**11** 5/6	**12** 4/15
13 26	**14** 1,694	**15** 99	**16** 1,028

DECIMAL DIFFERENCES

Solve each equation for the sum or difference of the decimals.

TEACHER SUGGESTIONS
DECIMAL DIFFERENCES

- In this activity students are asked to solve equations adding and subtracting decimals.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

Materials

Included:

- Equation Cards
- Recording Sheet
- Answer Key

Not Included:

- Pencil

1 43.2-12.07	**2** 13.09+15.78	**3** 34.7-32.09
4 7.8+13.42	**5** 87.32-[illegible]2.8	**6** 3.4[illegible]+[illegible].84
7 [illegible]6.23-8.9	**8** 23.22+3.98	**9** 14.6-12.34
10 24.6+22.88	**11** 99.42-68.38	**12** 15.55+15.55

Name _____ #_____ Date_____

DECIMAL DIFFERENCES RESPONSE SHEET

Solve each equation for the sum or difference of the decimals.

1	2	3
4	5	6

more on the back

Name _____ #_____ Date_____

DECIMAL DIFFERENCES RESPONSE SHEET

Solve each equation for the sum or difference of the decimals.

7	8	9
10	11	12

DECIMAL DIFFERENCES ANSWER KEY

1 31.13	**2** 28.87	**3** 2.61	**4** 21.22
5 74.52	**6** 10.33	**7** 7.33	**8** 27.2
9 2.26	**10** 47.48	**11** 31.04	**12** 31.1

MISSING NUMBER

Work backwards to determine the missing number in each equation.

TEACHER SUGGESTIONS
MISSING NUMBER

- In this activity students are asked to work backwards to find the missing number in an equation.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

Materials

Included:
- Equations with Missing Numbers
- Recording Sheet
- Answer Key

Not Included:
- Pencil

1.

```
   1   1   1
  1, 3 4 2
+    9 ■ 8
 -------
  2, 3 2 0
```

2.

```
        6  18
    ■  ~~7~~ ~~8~~
-       4 ●
 -------
    9 2 9
```

3.

```
      1   1
    4 ■ 2
+   9 9 9
 -------
    2 3
  ,
```

4.

```
      1  13
  ~~9,~~ ~~7~~ ~~3~~ ■
-     3 7 2
 -------
  8, 8 6 2
```

5.

```
  7, 4 0 0
+ 8, ■ 2 1
 -------
1 5, 7 2 1
```

6.

```
      8   9  10
  3, ~~9~~ ■ ~~0~~
-  1, 7 4 8
 -------
  2, 1 5 2
```

7.

```
  1   1
  ■ 3 9 2
+   6 7 4
-------
  8, 0 6 6
```

8.

```
  8   9   14
  ~~9~~ ~~0~~ ~~4~~
-   2 ■
-------
  8 7 7
```

9.

```
  ■ 7 5
-   4 2
-------
  3 9 3
```

10.

```
  1   1   11  11
  ~~3,~~ ~~4~~ ■ ~~1~~
-   2, 4 6
-------
  2, 6 7 5
```

11.

```
  1   1   1
  9, 4 7 5
+ 3, 9 2 ■
---------
1 3, 4 0 3
```

12.

```
    8   9   9   10
    ■ ~~0~~ ~~0~~ ~~0~~
-   8, 5 9 8
-----------
      4 0 2
```

Name _____ #_____ Date_____

MISSING NUMBER RESPONSE SHEET

Work backwards to determine the missing number in each equation.

1	2	3
4	5	6

more on the back

Name _____ #_____ Date_____

MISSING NUMBER RESPONSE SHEET

Work backwards to determine the missing number in each equation.

7	8	9
10	11	12

MISSING NUMBER ANSWER KEY

1.

	1	1	1
	1,	3	4	2
+		9	7	8
	2,	3	2	0

2.

		6	18
	9	~~7~~	~~8~~
-		4	9
	9	2	9

3.

	1	1	
	4	3	2
+	9	9	9
	1	4	[illegible]

7.

	1	1	
7,	3	9	2
	6	7	4
8,	0	[illegible]	6

8.

		9	14
	~~9~~	0	[illegible]
-		2	7
	8	7	[illegible]

9.

			5
+	4	[illegible]	1
	7	9	6

4.

	8		16	
	~~9,~~	~~7~~	~~3~~	4
-		8	7	2
	8,	[illegible]	6	2

5.

	7	4	0	0
+	8	3	2	[illegible]
1,	[illegible]	7	2	

6.

		8	9	0
	3,	~~9~~	[illegible]	~~0~~
	1	[illegible]	4	8
	2,	1	5	2

10.

	2	13	11	11
	~~3,~~	4	~~2~~	~~1~~
-		7	4	6
	2,	6	7	5

11.

		1	1	1
		9,	4	7	5
+		3,	9	2	8
	1	3,	4	0	3

12.

	8	9	9	10
	~~9~~,	~~0~~	~~0~~	~~0~~
-	8,	5	9	8
		4	0	2

SPIN A SUM

Use the spinners to determine an equation, and then solve.

TEACHER SUGGESTIONS
SPIN A SUM

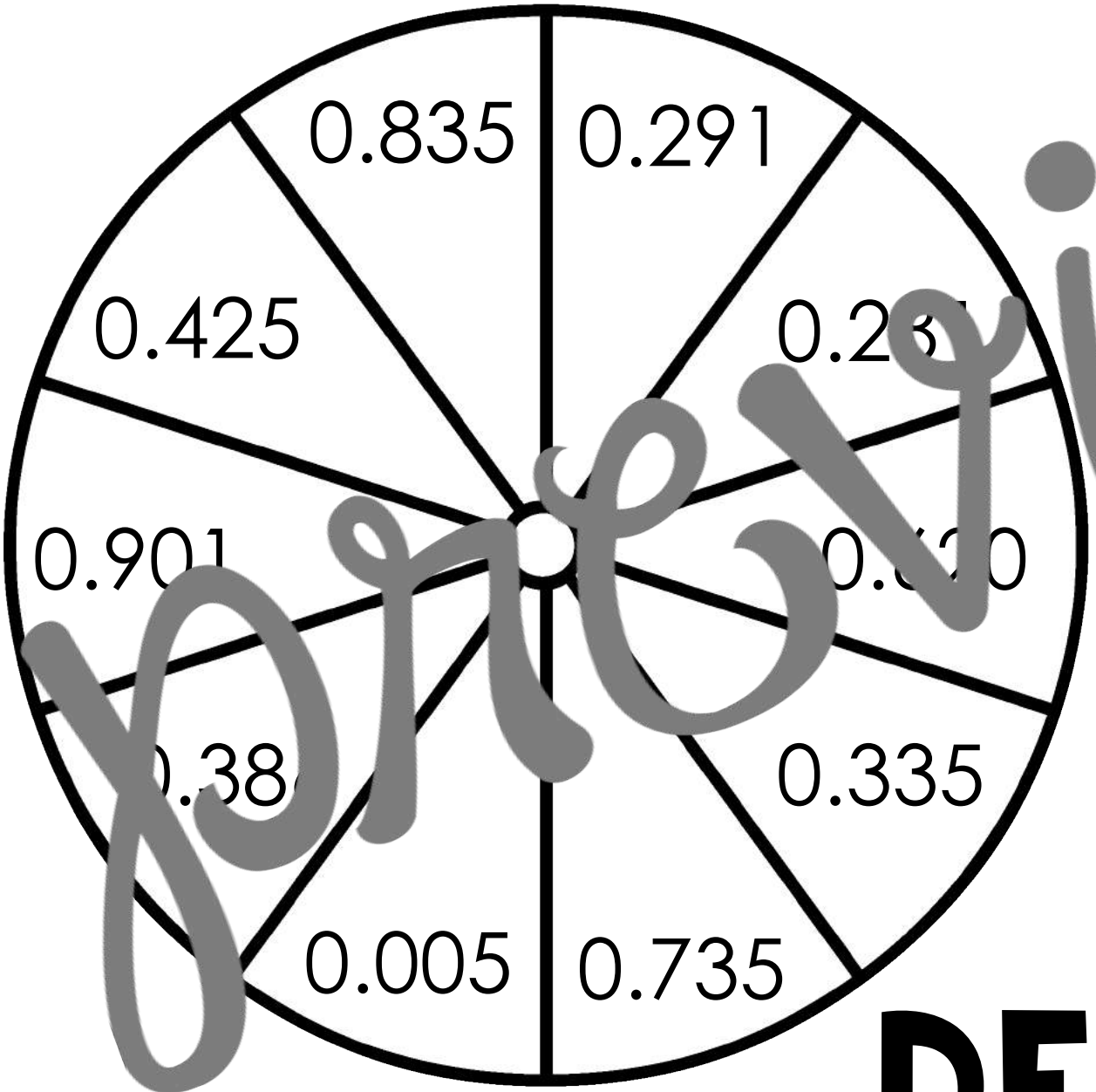
- In this activity students are asked to use spinners to determine numbers and operations to create and solve an equation.
- This activity can be used in a variety of ways:
  - Small group with teacher guidance
  - A partner activity for practice
  - Independently to assess

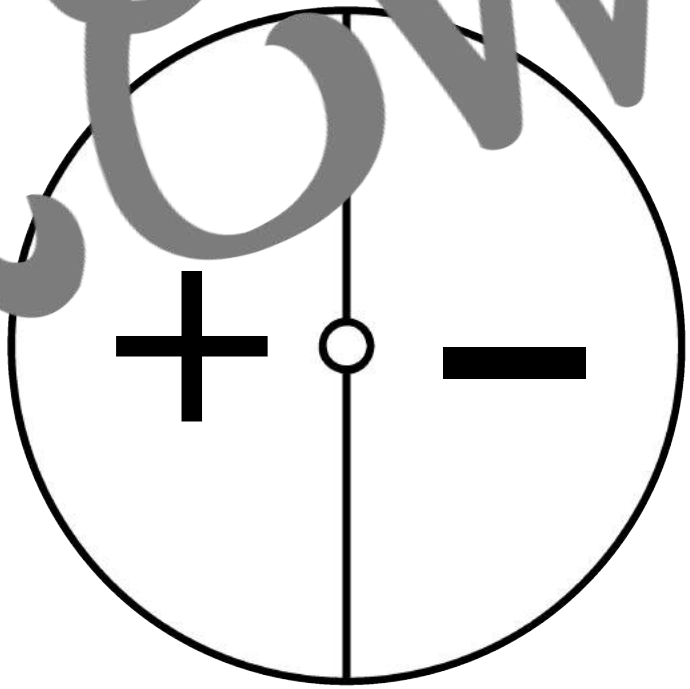
Materials

Included:
- Fraction Spinners
- Decimal Spinners
- Whole Number Spinners
- Recording Sheet

Not Included:
- Pencil
- Answer Key

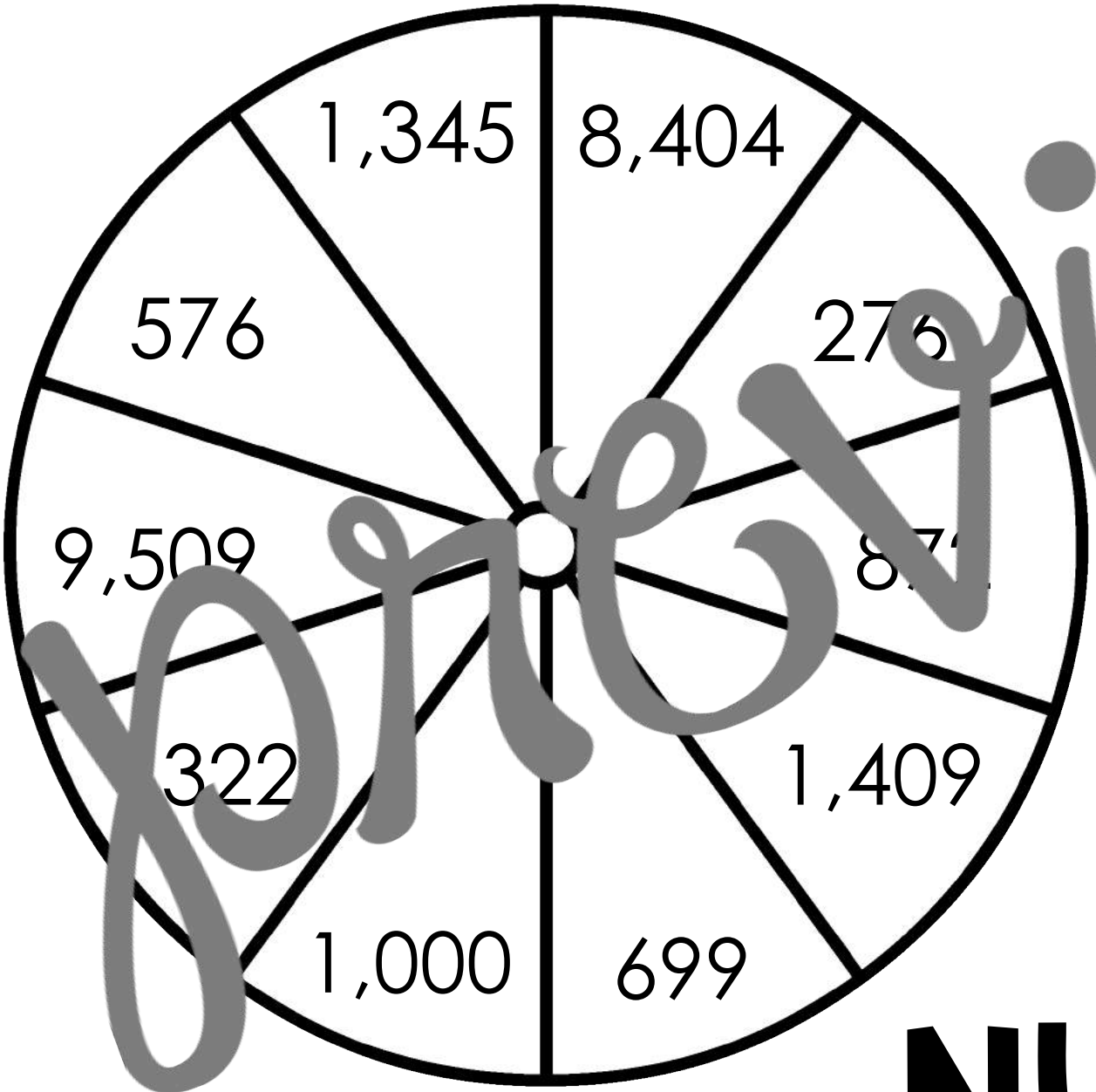
SPIN A SUM

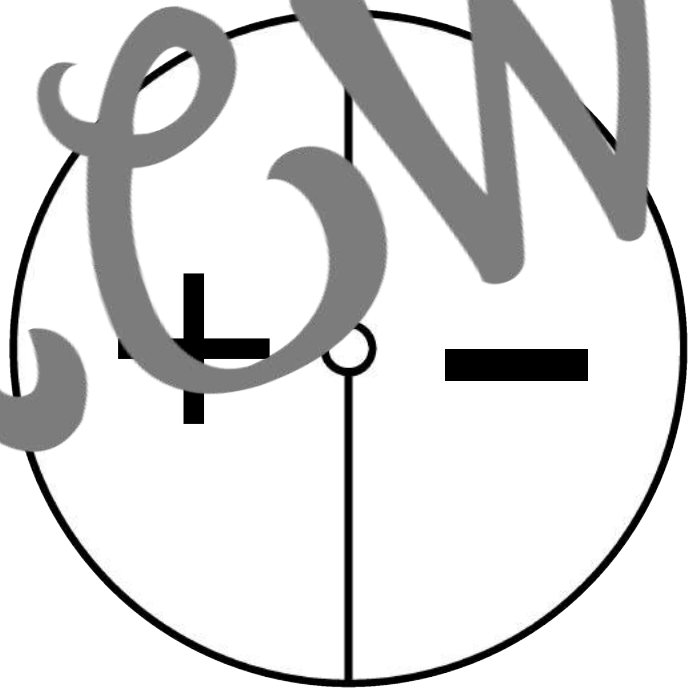




DECIMALS

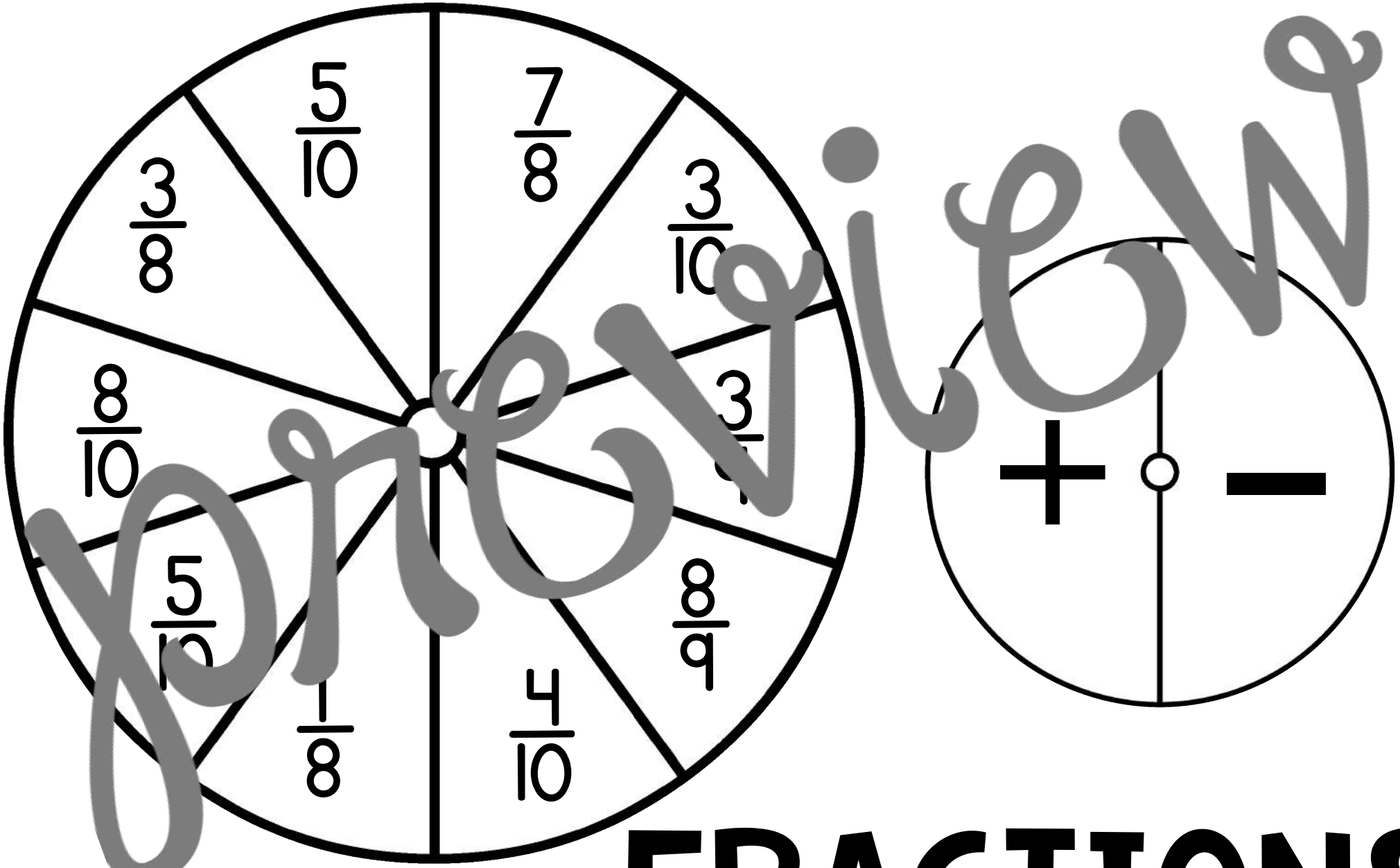
SPIN A SUM





WHOLE NUMBERS

SPIN A SUM



FRACTIONS

Name _____ #_____ Date_____

SPIN A SUM RESPONSE SHEET

Use the spinners to determine an equation, and then solve.

1	2	3
4	5	6

more on the back

Name _____ #_____ Date_____

SPIN A SUM RESPONSE SHEET

Use the spinners to determine an equation, and then solve.

7	8	9
10	11	12

QR CODES

Scan the "START" card and follow the directions to use all cards stopping at the "END" card.

TEACHER SUGGESTIONS
QR CODES

- In this activity students are asked to scan QR codes and follow the directions by adding or subtracting rational numbers.
- This activity can be used in a variety of ways.
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

Materials

Included:
- QR Code Cards

Not Included:
- A device capable of scanning QR Codes such as a smartphone or tablet

START

503.7

4,000

4,365,413

46.89

45,289.80

43.58

245,809

7,583.29

43

0.09

789

END

TRUE OR FALSE

Sort each equation as being either true or false.

TEACHER SUGGESTIONS
TRUE OR FALSE

- In this activity students are asked to sort complete equations as being either true or false.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

Materials

Included:
- Equation Cards
- Sorting Mat
- Recording Sheet
- Answer Key

Not Included:
- Pencil

1.

4.3+1.7+5.6=11.1

2.

1,642-975=667

3.

497-145=352

4.

721+350=371

5.

6,452-188=6,264

6.

976+387=589

7.

42.3+67.09=109.4

8.

742.09-162.3=579.79

9.

687+32=366

10

827+357=1,185

11.

5,774-187=5,931

12.

976+387=1,363

TRUE OR FALSE SORTING MAT

TRUE	FALSE

Name _____ #_____ Date_____

TRUE OR FALSE RESPONSE SHEET

Sort each equation as being either true or false.

1	2	3	4
5	6	7	8
9	10	11	12

TRUE OR FALSE ANSWER KEY

1 FALSE	2 TRUE	3 TRUE	4 FALSE
5 TRUE	6 FALSE	7 FALSE	8 TRUE
9 FALSE	10 FALSE	11 FALSE	12 TRUE

USING SETS

Use each set of numbers to solve the questions.

TEACHER SUGGESTIONS USING SETS

- In this activity students are asked to solve questions based on a set of given numbers.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

Materials

Included:
- Number Sets with Questions
- Recording Sheet
- Answer Key

Not Included:
- Pencil

CRAYONS

- **A LARGE BOX OF CRAYONS COSTS $7.89**
- **A MEDIUM BOX OF CRAYONS COSTS $3.49**
- **A SMALL BOX OF CRAYONS COSTS $1.99**

1. How much would it cost to buy one of each size box?
2. Frank bought three medium boxes of crayons. How much did he spend?
3. How much more is the large box than the small box?

JAN'S HOMEWORK

- **3/4 OF AN HOUR SPENT ON MATH**
- **2/3 OF AN HOUR SPENT ON READING**
- **1/6 OF AN HOUR SPENT ON SCIENCE**

1. What was the total amount of time spent on homework?
2. How much longer was spent on reading than science?
3. How much time was spent on math and reading?

FUNDRAISER

- GREG RAISED $99.78
- SARAH RAISED $114.20
- ANDY RAISED $78.14
- GRACE RAISED $34.61

1. How much did they raise together?

2. If their goal is to raise $500, how much more do they need to raise?

3. How much more did Greg and Andy raise than Sarah?

HEIGHTS

- ANGELA IS 5 1/2 FEET TALL
- GRANT IS 4 7/8 FEET TALL
- DIANA IS 5 2/5 FEET TALL

1. How much taller is Angela than Grant?

2. What is Angela and Diana's combined height?

3. How much shorter is Grant than Diana?

Name _____ #_____ Date_____

USING SETS RESPONSE SHEET

Use each set of numbers to solve the questions.

CRAYONS		JAN'S HOMEWORK	
1		1	
2		2	
3		3	

FUNDRAISER		HEIGHTS	
1		1	
2		2	
3		3	

USING SETS ANSWER KEY

CRAYONS		JAN'S HOMEWORK	
1	$13.37	1	1 7/12 HOURS
2	$10.47	2	3/6 OR 1/2 HOUR
3	$5.96	3	1 5/12 HOURS
FUNDRAISER		**HEIGHTS**	
1	$326.73	1	5/8 OF A FOOT
2	$173.27	2	10 9/10 FEET
3	$63.72	3	21/40 OF A FOOT

Name _____ #_____ Date _____

TEST BRIDGE QUESTIONS

1. Bailey lives 34.56 kilometers from Six Flags. Randy lives 56.22 kilometers from Six Flags. What is the difference in the distances?

a. 90.78 kilometers
b. 21.78 kilometers
c. 21.66 kilometers
d. 66.21 kilometers

2. Mary studies for 2½ hours longer than Chris. Allison studies for [illegible] hours less than Chris. Mary studies for 12 hours. How long did Allison study?

a. 4½ hours
b. 3 hours
c. 8 hours
d. 18½ hours

3. Stacia bought 3 items at the thrift store. The greatest amount she paid for an item was $3.[illegible]0. The least amount she paid for an item was $[illegible]. What could be the total amount Stacia paid for the 3 items?

a. $8.30 b. $11.50
c. $[illegible]5.10 d. $10.80

4. The regular price for a television is $123. Brad paid $75 less than the regular price using a Black Friday deal. He also paid $14.80 for a DVD player. What is the total amount Brad paid for these two items?

a. $62.80 b. $62.00
c. $198.00 d. $48.00

TEST BRIDGE ANSWER KEY

1. Bailey lives 34.56 kilometers from Six Flags. Randy lives 56.22 kilometers from Six Flags. What is the difference in the distances?

a. 90.78 kilometers
b. 21.78 kilometers
c. 21.66 kilometers
d. 66.21 kilometers

2. Mary studies for 2½ hours longer than Chris. Allison studies for 6½ hours less than Chris. Mary studies for 8 hours. How long did Allison study?

a. 14½ hours
b. 3 hours
c. 8 hours
d. 18½ hours

3. Stacia bought 3 items at the thrift store. The greatest amount she paid for an item was $3.50. The least amount she paid for an item was $1.70. What could be the total amount Stacia paid for the 3 items?

a. $8.30
b. $11.50
c. $5.10
d. $10.80

4. The regular price for a television is $123. Brad paid $75 less than the regular price using a Black Friday deal. He also paid $14.80 for a DVD player. What is the total amount Brad paid for these two items?

a. $62.80
b. $62.00
c. $198.00
d. $48.00

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