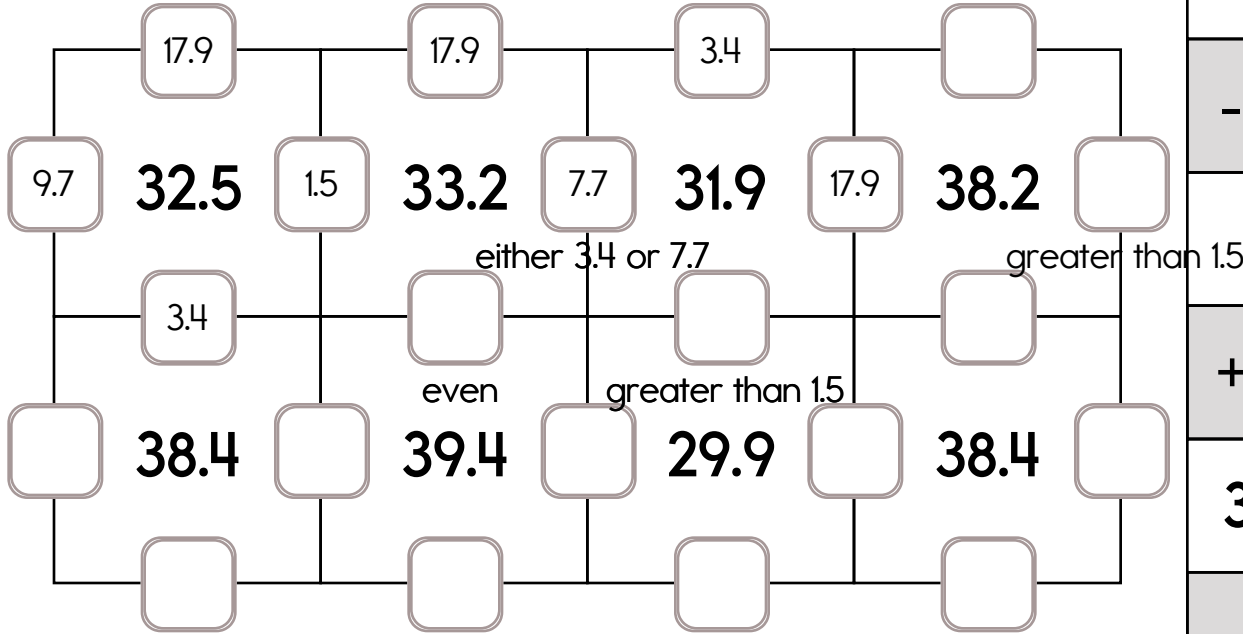| 58 | -9 | | +21 | | -4 | | -29 | | -1 | |

Name: _____

Challenge Math
Book 25

Fill in the missing numbers. How? The sum of the four surrounding numbers is in the center of each square.

Exactly one of the four numbers has to be one of these numbers: 23.8, 17.9, or 22.1.

The other three numbers have to all be DIFFERENT and must be from these: 7.7, 5.9, 9.7, 1.5, 2.9, 3.4, or 6.1.

Left column (top to bottom): 12, -2, -8, -5, -56, -1, +37

Right column (top to bottom): +2, -5, +7, -8, -16, +19, 35, -14

Grid:

Row 1: 17.9 , 17.9 , 3.4 , [ ]

Row 2: 9.7 , **32.5** , 1.5 , **33.2** , 7.7 , **31.9** , 17.9 , **38.2** , [ ]

either 3.4 or 7.7   greater than 1.5

Row 3: 3.4 , [ ] , [ ] , [ ]

even   greater than 1.5

Row 4: [ ] , **38.4** , [ ] , **39.4** , [ ] , **29.9** , [ ] , **38.4** , [ ]

Row 5: [ ] , [ ] , [ ] , [ ]

Bottom row: | +26 | | -3 | | -6 | | +12 | | -3 | |

Name: _____

Get a fidget spinner! Spin it.   **I needed to spin** _____ **time(s) to finish.**

65, 78, 91, 104, 117, 130,

_____, 156

Name the shape with seven sides and seven angles.

How many total legs are on 13 ants?

---

12 x 3 =

What number is halfway between 17 and 21?

You need to add what to 45 to get 51?

Justin earns $18 an hour. He worked 2 hours. How much did he make?

(8 - 3) + 4

A book has 5 pages. Each page has 12 dimes. How many dimes in the book?

Maria gave out a survey. The answers she got back were 14, 33, and 16. What is the range of these numbers?

Maria bought a stuffed animal at the school store. She paid with a $10 bill. She was given back 5 dimes and 3 quarters for change. How much was the stuffed animal?

Find the product of 7 and 4.

Name: _____

Ready to make equations? There is a missing equation in each box.

Circle the numbers once you find it!

A
44	(95)	93
99	87	68
23	27	36

+

Find an addition fact.

B
92	16	91
65	(85)	51
22	63	84

+

Find an addition fact.

C
(24)	18	56
88	19	63
73	52	49

+

Find an addition fact.

Equations:

Write the equation facts you found.

A		**+**		**=**	**95**
B		**+**		**=**	**85**
C		**+**	**24**	**=**	

---

7 x 9 =

63 ÷ 9 =

```
  9 0
- 4 0
```

The principal of your school wants to buy fifty-three books. Each book costs $13.70. She wants to estimate how much it will cost. Show her how you would estimate the cost:

How many digits are in the current year?
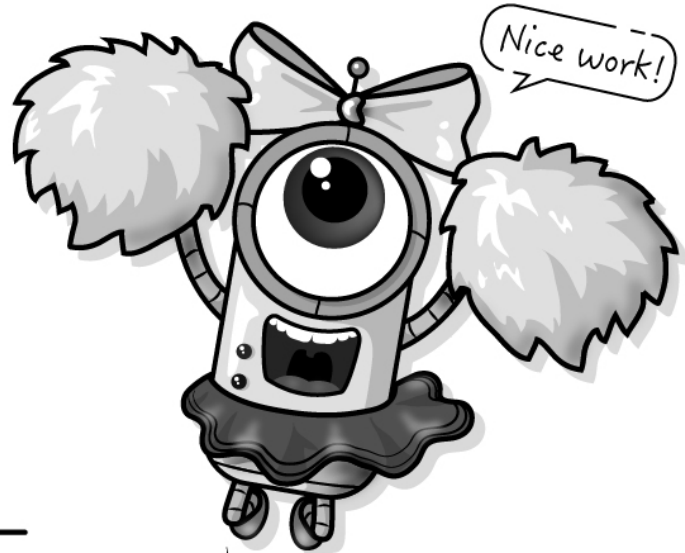
_____

Circle the word that best completes the sentence.

I am going to the speech competition this weekend, and I hope that you can come, (to/too).

Name: _____

FUN BREAK!

Play a game online!

edHelper.com/math-games.htm

Nice work!

I PLAYED ONE GAME

☐ (Check the box after you play.)

MY SCORE

_____

$2\frac{1}{4} + 8\frac{3}{4}$

180, _____, 200, 210, 220, 230

Round 98,588 to the nearest hundred.

8, 10, 12, 14, 16, 18, 20, _____, 24, 26

Round 8,506 to the nearest thousand.

Know how many inches in a foot? Okay, smarty pants, how many inches in 4 feet?

Name: _____

+			35	88	
93	93 +___	124 93 +___	93 + 35	181 93 + 88	93 +___
53	93 53 +___	53 +___	53 + 35	141 53 + 88	127 53 +___
	___ +___	62 ___ +___	66 ___ + 35	___ + 88	___ +___
	95 ___ +___	___ +___	___ + 35	___ + 88	___ +___
	___ +___	___ +___	67 ___ + 35	106 ___ + 88	___ +___

Write this as a number in standard form. Use a comma in your number.

three hundred ninety-nine thousand six hundred twenty-four

_____

Write a letter that has two or more lines of symmetry.

_____

How many inches are in 2 feet?

_____ inches

```
  3 5 3
- 3 2 9
```

7 x 9 =

```
  3 5 9
+ 3 8 9
```

Circle the smallest number:

4,239   741,603,647,259

64,915,338,295   5,068,717,280

```
  3 6
+ 3 3
```

Math Workbook

Name: _____

Guess the number in your head. Keep guessing until your numbers are correct.

Then write the correct answer!

😀 + 😠 = 12

😠 x 😀 = 27

😠 - 😀 = _____

😀 = _____   😠 = _____

3 before 18 _____	2 after 14 _____	8 after 13 _____
2 before 19 _____	9 after 18 _____	3 after 11 _____
7 before 17 _____	7 after 15 _____	6 after 17 _____
5 before 13 _____	4 after 16 _____	5 after 12 _____
6 before 12 _____	1 after 19 _____	6 after 19 _____
1 before 94 _____	4 after 37 _____	2 after 53 _____
4 before 87 _____	8 after 55 _____	7 after 43 _____
9 before 27 _____	3 after 57 _____	9 after 36 _____
8 before 69 _____	1 after 62 _____	5 after 28 _____

Name: _____

Make change. You can use $20, $10, $5, $1, 25¢, 10¢, 5¢, or 1¢.

Use the fewest bills and coins to make $25.12.

| $20 | |

( )   (1¢)   ( )
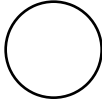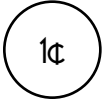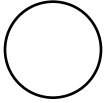
Use the fewest bills and coins to make $55.38.

Use the fewest bills and coins to make $44.42.

Use the fewest bills and coins to make $14.34.

Math Workbook

Name: _____

Fill in each box of the edHelperKu puzzle, using the numbers from 1 to 4.

Every row must contain the numbers 1, 2, 3, and 4.

Every column must contain the numbers 1, 2, 3, and 4.

In a cage with a plus sign, the given number will be the sum of all the digits in the cage.

4	10+		3+
	1234	1234	1
12+		4	
1234	1234		1234
		8+ 1	
1234	1234		1234
1		3	
	1234		1234

Fill in the blanks. These equations are from the puzzle above.

$1 + \underline{\quad} + \underline{\quad} = 8$

$1 + \underline{\quad} = 3$

$\underline{\quad} + \underline{\quad} + 1 + \underline{\quad} + \underline{\quad} = 12$
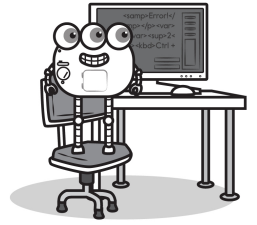
$\underline{\quad} + \underline{\quad} + 4 + \underline{\quad} = 10$

Math Workbook

Name: _____

Robot was given a math problem to solve.

Amanda listened to her jazz CD for 22 minutes. Then she listened to a rock CD. She listened to music for an hour. How long did she listen to the rock CD?

Robot wrote this program in Python to solve it.

```
# Define the variables
jazz_duration = 22
total_duration = 60  # in minutes

# Calculate the duration Amanda listened to rock music
rock_duration = total_duration - jazz_duration

print("Amanda listened to the rock CD for", rock_duration, "minutes.")
```

Robot's program will print the answer to the math problem.
What will the program print out?

Hints and Questions

After Robot's program is done, the variable jazz_duration will have a value in it. What value does it have?

When Robot wants to help explain something in the program, Robot starts a line with # and a space. This is called a comment. How many comments are in Robot's program?

Math Workbook

Name: _____

Robot wrote this program to solve a math problem.

```
# assign the miles driven to various events
miles_to_theater = 23
miles_to_uncle = 7
miles_to_home = 17

# calculate total miles driven
total_miles = miles_to_theater + miles_to_uncle + miles_to_home

print("Total miles driven:", total_miles)
```
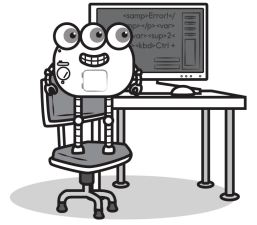
What will the program print out?

Wait! Robot forgot to write down the math problem.
Can you write your own word problem to explain Robot's computer code?

Name: _____

February is a great time to make boxes of chocolate. Just ask Justine the baker. "Yeah, ask me!" ...

"Um. I'm waiting. I make the best boxes of chocolate in town. Today I sold over 64 boxes! February is just perfect for chocolate."

When Justine is not bragging, she is baking. Today, she made... "Wait! Wait! Let me tell them! I made 1,290 pieces of chocolate. I put them into boxes, and I had no chocolate left over. Wow, huh?"

Justine always puts the same number of chocolates into all of her chocolate boxes. "I'll give you a hint. It's a 2-digit number and a multiple of 3."

How many chocolates does she put into each box?

Show your work.

Name: _____

"Want to visit my farm?" asked Peter. "It's just me, my mom, my dad, my 2 sisters, my 12 spiders, my 2 chickens, and, last but not least, my 6 horses."

"Yuck, did you say 12 spiders? Seriously?" asked Anna.

"Yes, I did! Just answer the following math question. I didn't say these math questions make sense," said Peter with a big smile.

How many legs are there where Peter lives? If it helps, humans have 2 legs (duh!), spiders have 8, and you can figure out the rest!

Unscramble these letters to spell a two-digit number with two different digits.

fteinys-fve _____ (57)

ivix-tsyef _____

Name: _____

```
    5 2 6 7
  + 4 6 1 2 1
  _____
```

Skill: Whole Numbers and Place Value

The fraction $\frac{3}{7}$ has a _____ of 3.

(numerator) (pattern)

(denominator) (sample space)

Skill: Fractions and Decimals

---

5 and 7 are _____ numbers.

(prime) (irrational)

(encrypted) (composite)

Skill: Basics of Fractions and Mixed Numbers

What is the value of the 4 in 82.34?

(four hundredths)

(four hundred) (forty)

(four tenths)

Skill: Decimals

$\frac{7}{100}$ =

(10.7) (0.7) (0.07) (100.7)

Skill: Fractions and Mixed Numbers (addition/subtraction)

```
    1 3 3 6
  +   4 5 1
  _____
```

Skill: Whole Numbers and Place Value

Use paper and pencil to answer.

The sum of 255 and 372 is _____.

Skill: Whole Numbers

In 5,739, what does the digit 3 stand for?

(30 tens) (3 tens)

(30 thousands) (3 ones)

Skill: Whole Numbers and Place Value

---

Name: _____

Secret Mission: You have been hired to develop and evaluate robots' math skills. Sometimes, they give thorough, correct explanations. However, they occasionally go haywire.

Robot Rob was given a math problem to solve.

David and Hannah are doing their math homework. Their teacher gave them each 19 pages of math facts to practice. Each page has 7 rows and 6 columns of problems. David can do a row of problems in about 5.5 seconds. Hannah is faster. She can do a row of problems in 4.8 seconds. How much time will David need to finish his math homework?

Robot Rob thinks this might be the answer:
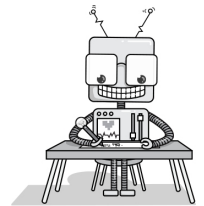
David has 19 pages times 7 rows = (19 times 7=133) 133 rows.
David will need 133 rows times 5.5 seconds = (133 times 5.5=731.5) 731.5 seconds.
David will need about 731.5 to do his homework. Answer: 731.5.

Robot Rob did not explain too much. How do you think Robot Rob could have shown his work better?
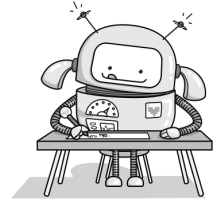
Name: _____

He is not sure that is correct, so he asked Robot Rita for help. This is how she tries to solve the problem.

First, we figure out the total number of problems by multiplying the number of rows by the number of columns. So, 7 rows times 6 columns = 42 problems per page.

Then, since David and Hannah each have 19 pages of problems, we multiply the number of problems per page by the number of pages to find the total number of rows of problems. So, 42 problems/page times 19 pages = 798 rows of problems.

Finally, we figure out how much time David will need to solve the entire homework by multiplying how long he takes per row of problems by the total number of rows of problems. Therefore, 5.5 seconds/row times 798 rows = 4389 seconds.

If you were the teacher, how would you grade Robot Rita's work? Explain and also make comments in Robot Rita's work.

Hint: EdHelper's answer pages gave this answer.

David can finish one page in 38.5 seconds.
So it will take him 731.5 seconds to do 19 pages.

Name: _____

Now that you have seen edHelper's answer and how Robot Rob and Robot Rita tried to solve this problem, how would you solve it? Show your steps and explain.

David and Hannah are doing their math homework. Their teacher gave them each 19 pages of math facts to practice. Each page has 7 rows and 6 columns of problems. David can do a row of problems in about 5.5 seconds. Hannah is faster. She can do a row of problems in 4.8 seconds.

How much time will David need to finish his math homework?

Name: _____

Now it's your turn. You've seen how the robots tried to solve this problem, and you corrected their work. Now you try doing it!

Jack and Emily are doing their math homework. Their teacher gave them each 16 pages of math facts to practice. Each page has 8 rows and 6 columns of problems. Jack can do a row of problems in about 8.5 seconds. Emily is faster. She can do a row of problems in 7.7 seconds.

How much time will Jack need to finish his math homework?

Name: _____

Mrs. Ragnar's class is having a Valentine's Day Party. Each child must bring a valentine for every other child in the class. There are 28 children in the class.

Mason wanted to make sure that he would have enough valentines for everyone in the class even if he accidentally dropped two in someone's box by mistake, so he brought 32 cards to class. His valentines cost $0.68 each. How much more did Mason spend on valentines than Mia, who brought the same cards as Mason, but only brought enough valentines for everyone else in the class?

A version of Black History Month was first celebrated in the United States in 1926. Canada first began to recognize February as Black History Month in 1979. The United Kingdom first celebrated Black History Month in 1987.

How many years ago was Black History Month first celebrated in the United States?

Ava and Liam are both enjoying Mardi Gras celebrations with their families in New Orleans. Ava is going to a total of three parades whose routes are, respectively, 3.2 miles, 4.8 miles, and 2.6 miles. Liam is going to four parades whose routes are, respectively, 3.2 miles, 2.1 miles, 1.4 miles, and 3.1 miles.

How many more miles of parade is Ava going to see than Liam?

Name: _____

The fifth-grade class had an election. They have a large class of 14 boys and 16 girls. Every kid in the class voted.

The person with the most votes will become the calendar helper. The one with the second to most votes will be the paper collector. The lucky one with the third most votes will become the trash monitor.

Robert got 20% of the vote.

For every 3 voters, Sarah received 1 vote.

For every 6 voters, Jack received 1 vote.

Emily received three-tenths of the vote.

Who has what job?

Please show how you found your answer.

Name: _____

FUN BREAK!

Play a game online!

edHelper.com/math-games.htm

Nice work!

I PLAYED ONE GAME

☐ (Check the box after you play.)

MY SCORE

_____

Sketch a right angle named ∠GHI.

∠

Sketch an acute angle named ∠BCD.

An angle measures 161°. What would you call this angle?

How many centimeters in 7.4 meters?

How much time is it from 8:00 a.m. to 11:50 a.m.?

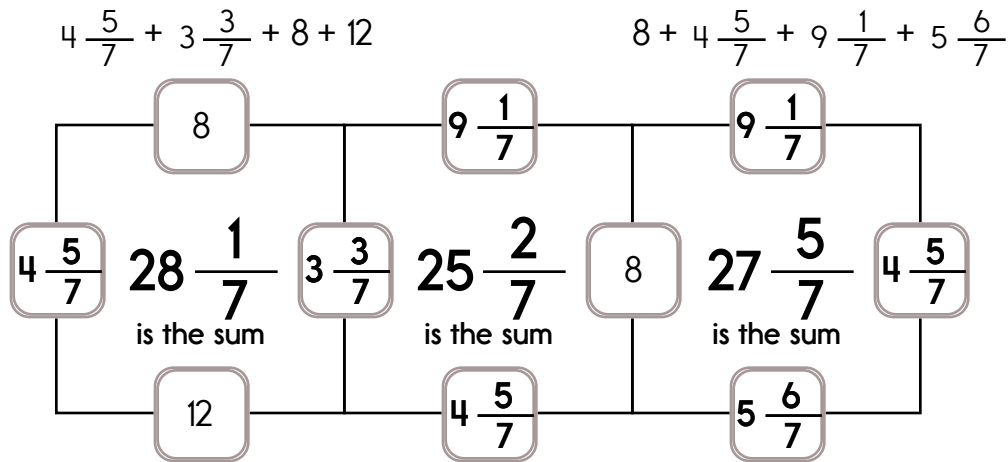
It was 79 degrees outside. What would the temperature be if it got 29 degrees colder?

Circle the correctly spelled word.

My puppy is adorable, but she is also quite (naughty/notty).

Name: _____

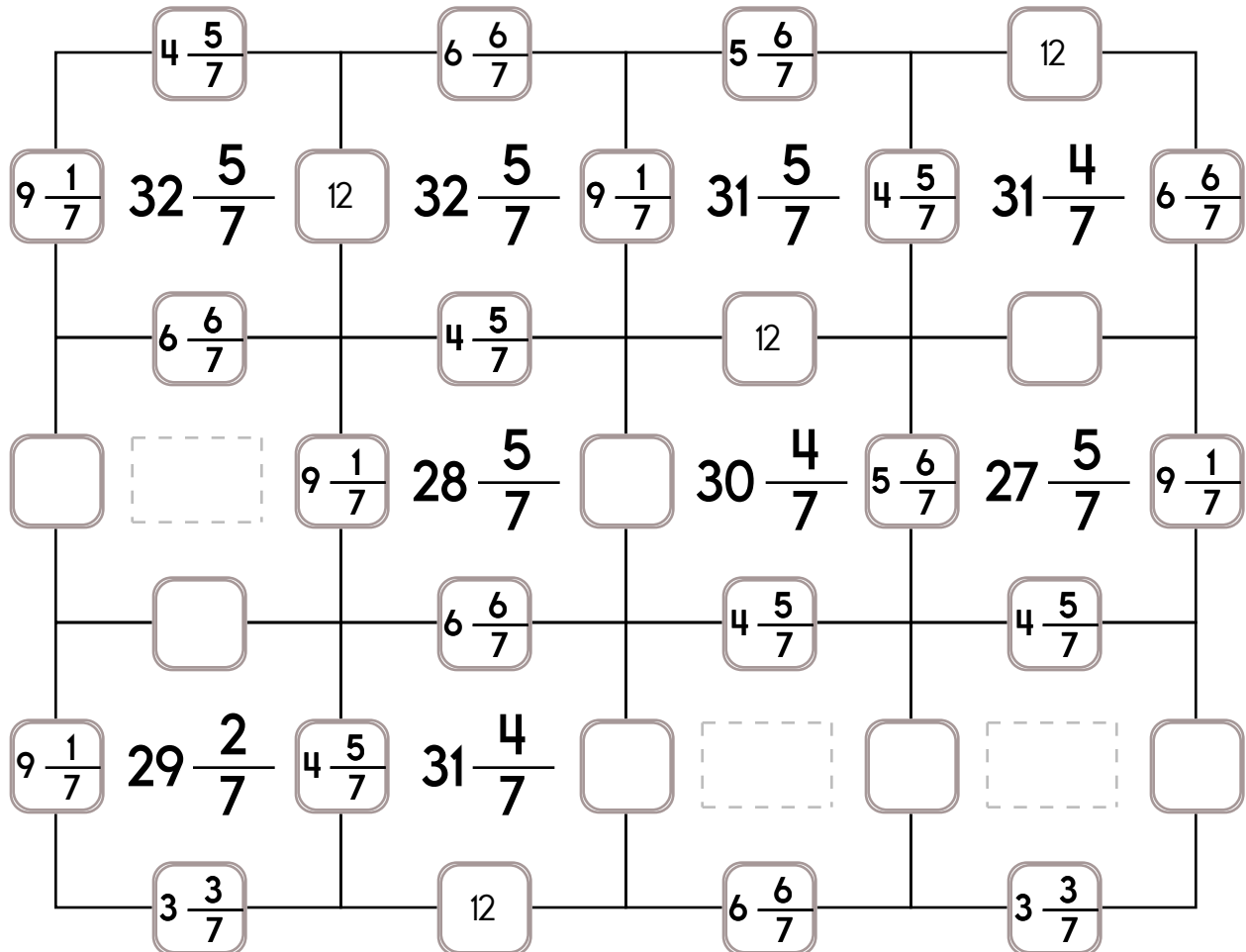This puzzle has a large number in the middle, which is the sum of the four numbers that surround it.

$4\frac{5}{7} + 3\frac{3}{7} + 8 + 12$ $8 + 4\frac{5}{7} + 9\frac{1}{7} + 5\frac{6}{7}$

Sample:

	8		$9\frac{1}{7}$		$9\frac{1}{7}$	
$4\frac{5}{7}$	$28\frac{1}{7}$ is the sum	$3\frac{3}{7}$	$25\frac{2}{7}$ is the sum	8	$27\frac{5}{7}$ is the sum	$4\frac{5}{7}$
	12		$4\frac{5}{7}$		$5\frac{6}{7}$	

Fill in the missing numbers. How? The sum of the four surrounding numbers is in the center of each square.

Exactly one of the four numbers has to be one of these numbers: $5\frac{6}{7}$, $6\frac{6}{7}$, or $3\frac{3}{7}$.

The other three numbers have to all be DIFFERENT and must be from these: $4\frac{5}{7}$, 12, $9\frac{1}{7}$, or 8.

	$4\frac{5}{7}$		$6\frac{6}{7}$		$5\frac{6}{7}$		12	
$9\frac{1}{7}$	$32\frac{5}{7}$	12	$32\frac{5}{7}$	$9\frac{1}{7}$	$31\frac{5}{7}$	$4\frac{5}{7}$	$31\frac{4}{7}$	$6\frac{6}{7}$
	$6\frac{6}{7}$		$4\frac{5}{7}$		12		☐	
☐	⬚	$9\frac{1}{7}$	$28\frac{5}{7}$	☐	$30\frac{4}{7}$	$5\frac{6}{7}$	$27\frac{5}{7}$	$9\frac{1}{7}$
	☐		$6\frac{6}{7}$		$4\frac{5}{7}$		$4\frac{5}{7}$	
$9\frac{1}{7}$	$29\frac{2}{7}$	$4\frac{5}{7}$	$31\frac{4}{7}$	☐	⬚	☐	⬚	☐
	$3\frac{3}{7}$		12		$6\frac{6}{7}$		$3\frac{3}{7}$	

Name: _____

Fill in the missing numbers. How? The sum of the four surrounding numbers is in the center of each square.

Exactly one of the four numbers has to be one of these numbers: $7\frac{2}{3}$, $2\frac{2}{3}$, or $8\frac{1}{3}$.

The other three numbers have to all be DIFFERENT and must be from these: $\frac{2}{3}$, 11, 9, or $1\frac{1}{3}$.

	9		$1\frac{1}{3}$		11		$2\frac{2}{3}$	
$1\frac{1}{3}$	$19\frac{1}{3}$	$\frac{2}{3}$	$13\frac{2}{3}$		29	$1\frac{1}{3}$	24	9
	$8\frac{1}{3}$		$2\frac{2}{3}$		$7\frac{2}{3}$			
$\frac{2}{3}$	$19\frac{1}{3}$	9	24	$1\frac{1}{3}$	$18\frac{2}{3}$	$\frac{2}{3}$	$20\frac{2}{3}$	$7\frac{2}{3}$
	$1\frac{1}{3}$						$1\frac{1}{3}$	
$\frac{2}{3}$			29	$8\frac{1}{3}$	29		$15\frac{2}{3}$	$2\frac{2}{3}$
	$8\frac{1}{3}$		$\frac{2}{3}$		$\frac{2}{3}$		$\frac{2}{3}$	
	$29\frac{2}{3}$		$20\frac{2}{3}$	$7\frac{2}{3}$	$20\frac{2}{3}$	$1\frac{1}{3}$	$21\frac{1}{3}$	$8\frac{1}{3}$
	$1\frac{1}{3}$		$1\frac{1}{3}$					
	29	$7\frac{2}{3}$	$18\frac{2}{3}$			$\frac{2}{3}$		$8\frac{1}{3}$
			$\frac{2}{3}$		$2\frac{2}{3}$			

Math Workbook

Name: _____

Amy and Kevin like to ride their electric scooters on the weekend.

Amy rode a total of 110 miles this weekend, and her average speed was 22 miles per hour.

Kevin rode a total of 240 miles this weekend, and his average speed was 30 miles per hour.

Which rider rode for the longest amount of time?

Which fraction is larger?

$$\frac{9}{14} \quad \text{or} \quad \frac{1}{2}$$

$$\frac{1}{4} \quad \text{or} \quad \frac{1}{14}$$

$$\frac{5}{6} \quad \text{or} \quad \frac{1}{3}$$

Who is the youngest?

Emily turned 7 years old in 2018.

Erin will be 24 years old in 2034.

Rosa turned 12 years old in 2020.

Hannah and two of her friends are playing a game where they can spend HBucks to buy extra lives and potions. Who spent the most HBucks?
To purchase 2 extra lives costs 5 HBucks.
To purchase 6 potions costs 2 HBucks.

Hannah bought 8 extra lives.

Rose bought 6 extra lives and 12 potions.

Wendy bought 2 extra lives and 6 potions.

Name: _____

Draw a line from START to END.

6
14   2
0

Cross out the number you use above and then write it below.

3 + (2 + 6) - 10

9 + 6 x 8

START

4 x 11 + 3

6 - 4 + 8 + 8

11 x 8 ÷ 2

108 ÷ 9 - 6

6

21 ÷ 7 x 4

1 + 7 - 3

4 + 7 + (12 + 4)

1 x 99 ÷ 9

(6 x 8) x 5

5 x 36 ÷ 9

END

3 + 6 - 6

8 x 4 - 8

4 x 11 + 2

(12 - 12) x 3

9 + (12 - 4) x 4

(9 + 10) + 2 - 7

9 + 1 - 8

11 - 4 ÷ 1

12 + 9 - 11

5 + 12 + 3
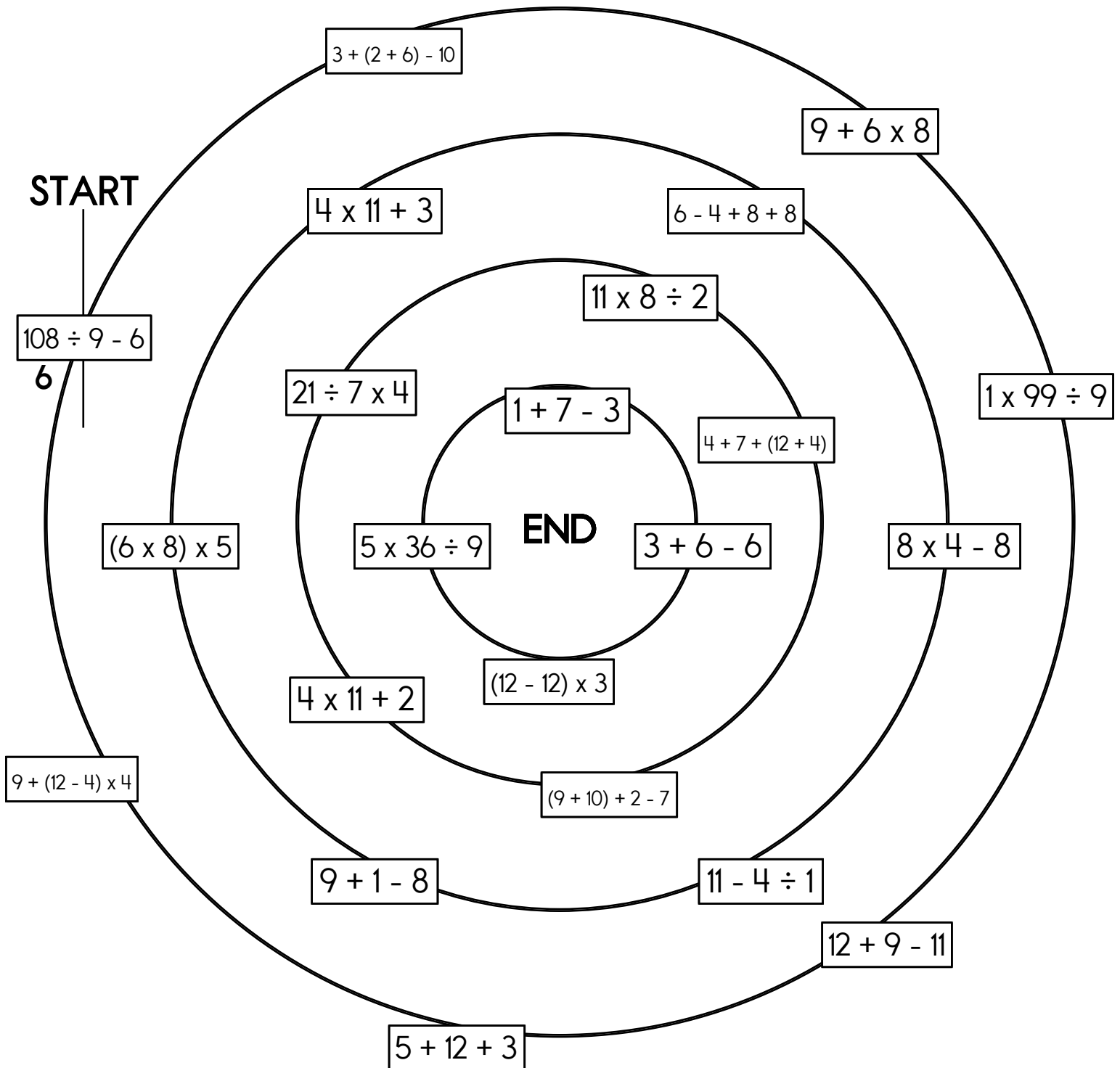
Name: _____

Jason liked to go to the library in Martinsburg. He thought it was amazing to have so many books in one place. The librarian told him that 2,342 books had been added to the library this year. Now the library had a total of 159,868 books! How many books did the library have last year?

Kevin was curious about everything, especially measurements. He liked to know how much water a glass would hold, how much air a balloon would hold, and how much pudding a bowl would hold. He even wanted to know how much batter his mother's cake pan would hold! The cake pan is fourteen inches long, eight inches wide, and 2.5 inches deep. What is the volume of the cake pan?

One package of safety pins has 24 safety pins in it. How many safety pins are in 3 packages? Write an equation and solve the problem.

Anna wanted to make a chart illustrating the effects of static electricity. She used a sheet of poster board that was 40 inches wide and 48 inches long. She divided the poster board into eight equal sections. What was the area of each section?

The fifth grade class surveyed 162 people. They found that $\frac{1}{3}$ of the people have umbrellas. Of the people who have umbrellas, $\frac{1}{2}$ have black umbrellas. How many people in the survey group have black umbrellas?

word root **glu** can mean **keep a firm hold of something or tenacious**   **glue, glutinous**

Name: _____

When you divide 76 by 8, you will get a quotient of 9 with a remainder of 4.

How many other different remainders can you get if you divide other whole numbers by 8? Give an example of each.

1	2	3	4	5	6	7	8	9	10

11	12	13	14	15	16	17	18	19	20

21	22	23	24	25	26	27	28	29	30

If this pattern continues, color how these squares would look:

a.

33	34	35	36	37	38

b.

90	91	92	93	94
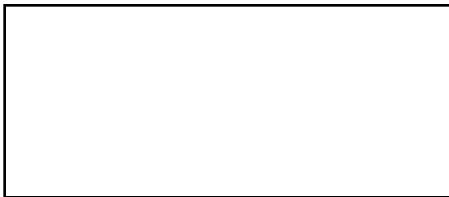
Holly drew a large rectangle and then a little square. She wants to draw and color in little squares inside of the rectangle. Each time she draws a little square inside the rectangle, she will color it with a different color. She has a total of 182 different colored crayons. How many different colored small squares will she be able to fit in this rectangle?

It has been an intense softball season. Erin, Wendy, and Emily are friends, but they all are on different teams in the league. Erin's team has won 7 games and lost 11 games. Wendy's team has won 8 games and lost 10 games. Emily's team has won 11 games and lost 7 games.

Which team has the best record?

Math Workbook

Name: _____

$18 + \frac{5}{8} - \frac{1}{9} =$

Reduce $\frac{27}{48}$ to its lowest terms.

$94 - \frac{1}{10} =$

$18 + \frac{2}{9} + \frac{1}{3} =$

$7 - \frac{1}{2} - \frac{2}{7} =$

Reduce $\frac{4}{34}$ to its lowest terms.

Find the least common denominator.

$\frac{16}{36}$, $\frac{20}{63}$ and $\frac{16}{27}$

$2 \frac{3}{4}$

$- \quad \frac{2}{6}$

_____

$7 \frac{9}{11}$

$+ \ 2 \frac{2}{5}$

_____

What is the least common multiple of 10 and 14?

What is the least common multiple of 6 and 10?

$14 + n = 24$

Name: _____

Paul's axe was getting old and was not cutting very well. He paid $9,321.74 for a new one. (Such big axes are very expensive!) He paid for the axe with 94 $100-bills. How much change did he get?

Jason is painting two stripes on the sleeves of his white t-shirt. He can use red, blue, yellow, or purple paint. How many different ways can he paint the stripes if the order is important?

The director asked the cameraman for a close-up of the actress done from a 60° angle to show deep shadows. What is the measure of an angle that is supplementary to the 60° angle?

Name: _____

Draw ONE continuous line that touches every box ONCE.
Count by 11s. Find the box with the number 63. Move up, down, right, or left.
Keep counting until you reach 877. Do not move into a spot with a picture.

				470					
								635	
382									
	360								
	877				800			
	74	63		151	184				
		107		239					

Write 5,510 in words.

_____

1 kg = 1,000 g

22 kg = _____ g

In the number 297,851,619, the digit 7 is in what place?
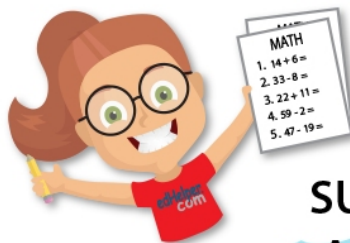
_____

15 cm = _____ mm

10 x 8 =

Write an equation to represent this:

The product of four and six is twenty-four.

_____