70	-21		-18		$+\frac{1}{3}$		+44		$+7\frac{4}{8}$	

Name: _____

Pick 27 to do: Skip 2 pages.

☐ page 1	☐ page 7	☐ page 13	☐ page 19	☐ page 25
☐ page 2	☐ page 8	☐ page 14	☐ page 20	☐ page 26
☐ page 3	☐ page 9	☐ page 15	☐ page 21	☐ page 27
☐ page 4	☐ page 10	☐ page 16	☐ page 22	☐ page 28
☐ page 5	☐ page 11	☐ page 17	☐ page 23	☐ page 29
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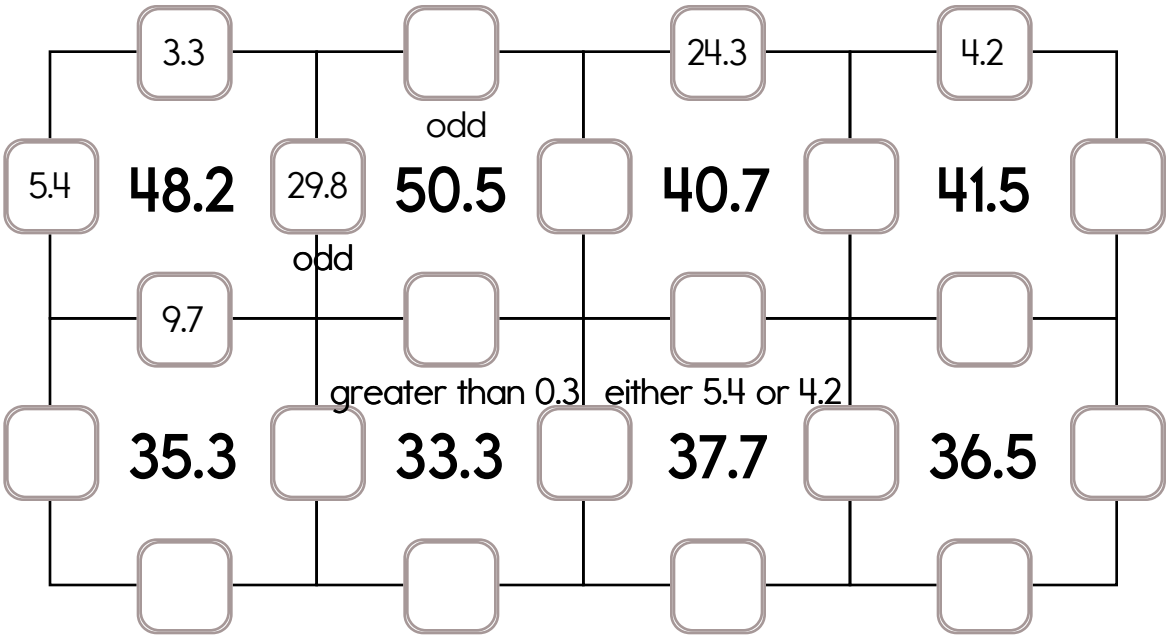
Challenge Math
Book 25

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: 24.3, 12.5, or 29.8.

The other three numbers have to all be DIFFERENT and must be from these: 7.7, 0.3, 4.2, 3.3, 5.4, or 9.7.



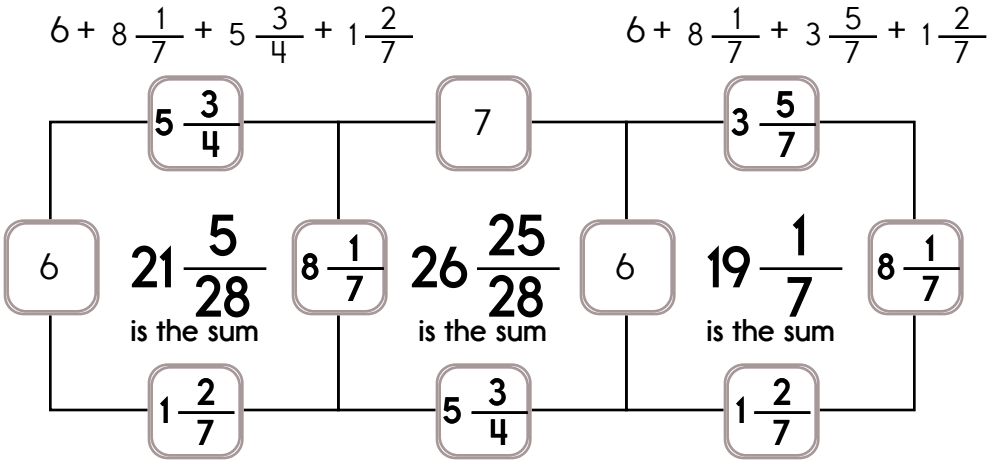
$30\frac{5}{12}$	$-\frac{2}{3}$
$+\frac{1}{8}$	-2
$-8\frac{2}{3}$	$-\frac{2}{4}$
+1	+35
$+\frac{1}{3}$	-41
+27	$-9\frac{1}{4}$
-47	$64\frac{5}{12}$
	$+\frac{2}{8}$

	$+\frac{7}{8}$		$+\frac{1}{3}$		-19		+6		$+4\frac{3}{4}$

Name: _____

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

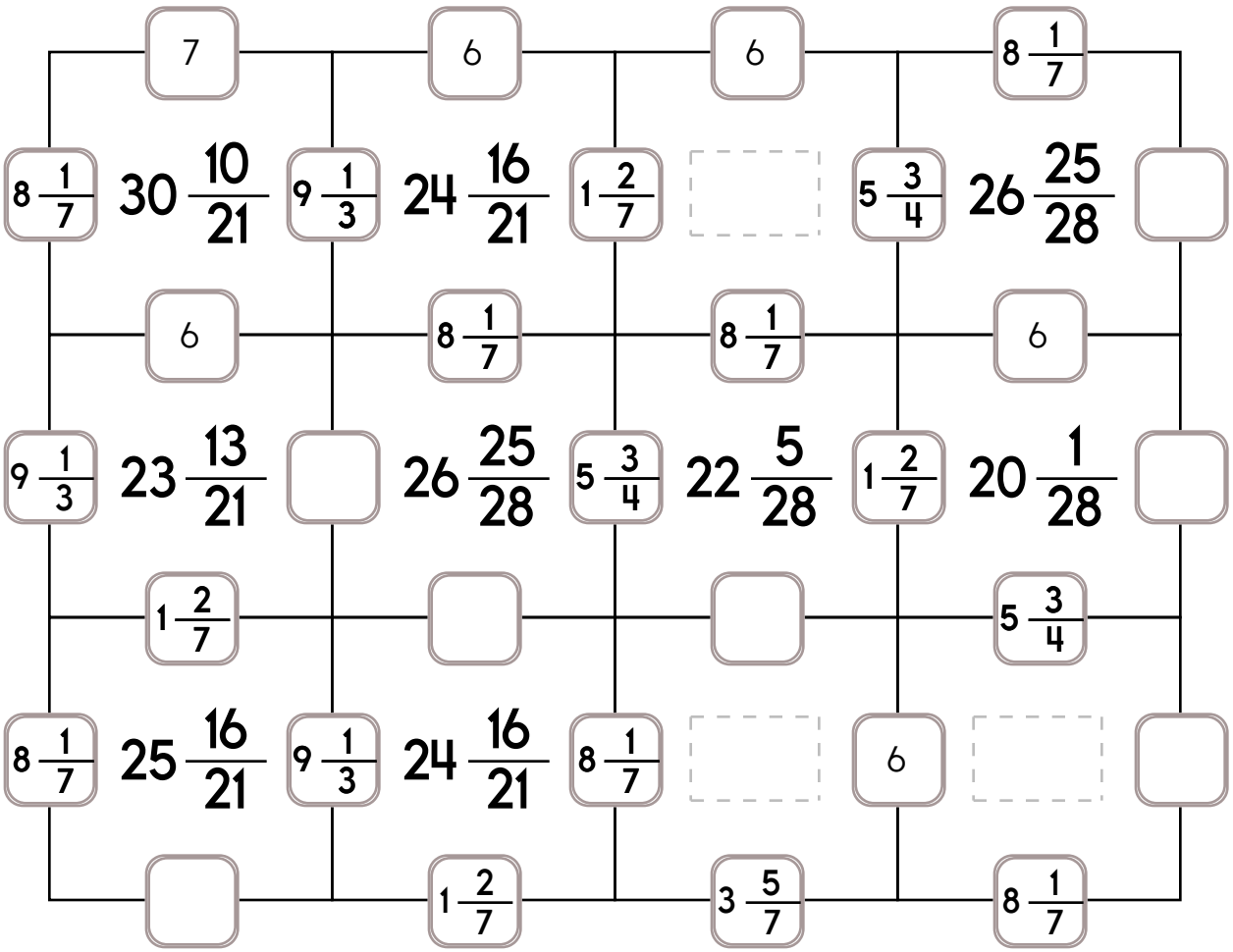
Sample:



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: $3\frac{5}{7}$, $5\frac{3}{4}$, or $9\frac{1}{3}$.

The other three numbers have to all be DIFFERENT and must be from these: $8\frac{1}{7}$, 7, $1\frac{2}{7}$, or 6.

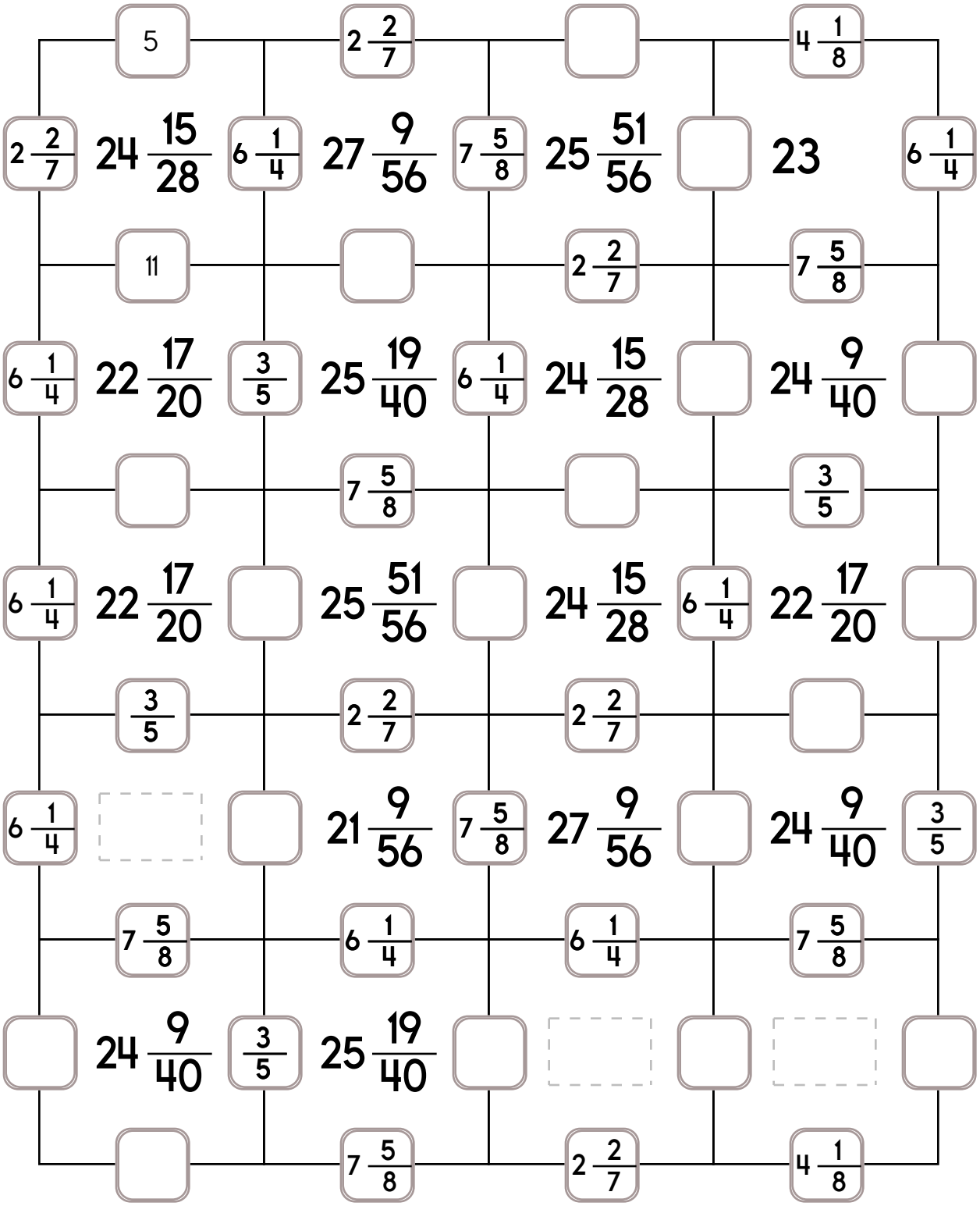


Name: _____

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: $4\frac{1}{8}$, $2\frac{2}{7}$, or $\frac{3}{5}$.

The other three numbers have to all be DIFFERENT and must be from these: $6\frac{1}{4}$, 5, 11, or $7\frac{5}{8}$.



Name: _____

Fill in the missing numbers.

The number 10,000 times 92 = _____

The number one thousand times 92 = _____

The number 10,000 times 9.2 = _____

David is making his favorite ultimate chocolate chip cookies for a huge party at school. He just finished dropping rounded tablespoons of dough on his cookie sheet and was able to fit 17, which will make 17 cookies. The problem is that he needs to make 90 cookies for his party, and his oven can only fit one cookie sheet at a time. How many cookie sheets will he need to bake?

Name: _____

FUN BREAK!

Play a game online!

edHelper.com/math-games.htm

I PLAYED ONE GAME

☐ (Check the box after you play.)

MY SCORE

_____

Write the reciprocal.

$\frac{8}{3}$

Write the reciprocal.

8

Write the reciprocal.

$\frac{5}{9}$

$5 \times 5 = x^2$

What is the value of x?

$|-8| - y = 1$

$y =$

$(14 + 15 + 11 + 13) =$

Name: _____

Samantha collects squishies. "I love em!" she says to her friend Jen.
"Me, too," replies Jen. "Check out my new Mochi Squishies. They come in blue, red, and tickle-me-pink."
"Seriously? Tickle-me-pink is a color?" asks Samanta.
"It is! But it was the most expensive to buy."
"How much?" asks Jen.
"Well, I got one blue squishy and two red squishies for 55 cents.
Then I got one tickle-me-pink squishy and two blue squishies for 85 cents.
Oh yeah, I also got one red squishy and two tickle-me-pink squishies. That was 85 cents, also.
If you can guess how much the tickle-me-pink cost me, I'll GIVE it to you!"

Please show how you found your answer. You really want that tickle-me-pink squishy. It's soooooooo cute!

Name: _____

Ready to make equations? There is a missing equation in each box.
Circle the numbers once you find it!

A

	71	90	48
-	77	85	95
	22	68	50

Find a subtraction fact.

B

	9	91	14
-	33	34	71
	59	81	77

Find a subtraction fact.

C

	68	36	97
-	88	54	64
	74	52	44

Find a subtraction fact.

Equations:

Write the equation facts you found.

A	90	-		=	
B		-		=	
C		-		=	

Three girls ran a race.
Holly was not as fast as Rosa.
Rosa ran past Hannah in the race and Hannah never caught up.
Who won the race? Do you have enough information to know?

1 lb = 16 oz

20 lb = _____ oz

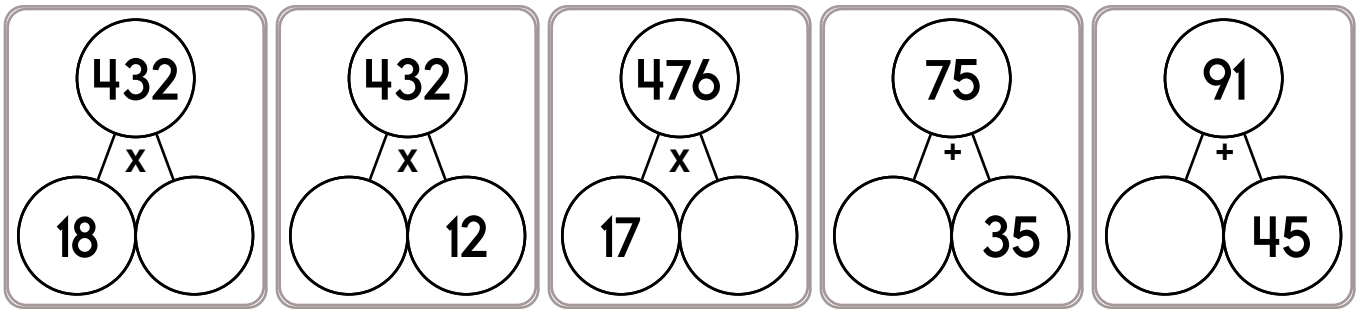
32 ÷ 4 = _____

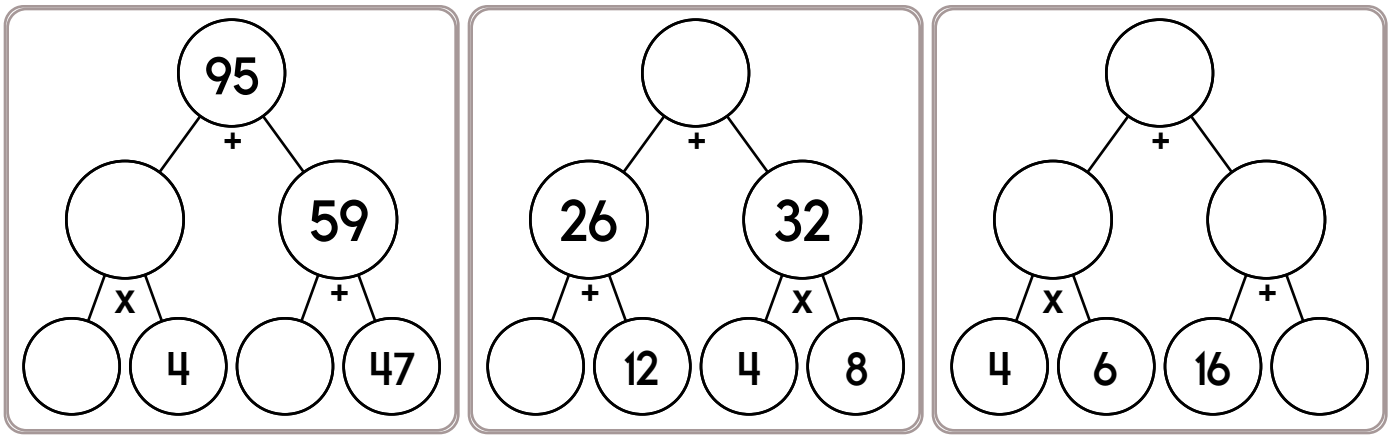
4 x 3 = _____

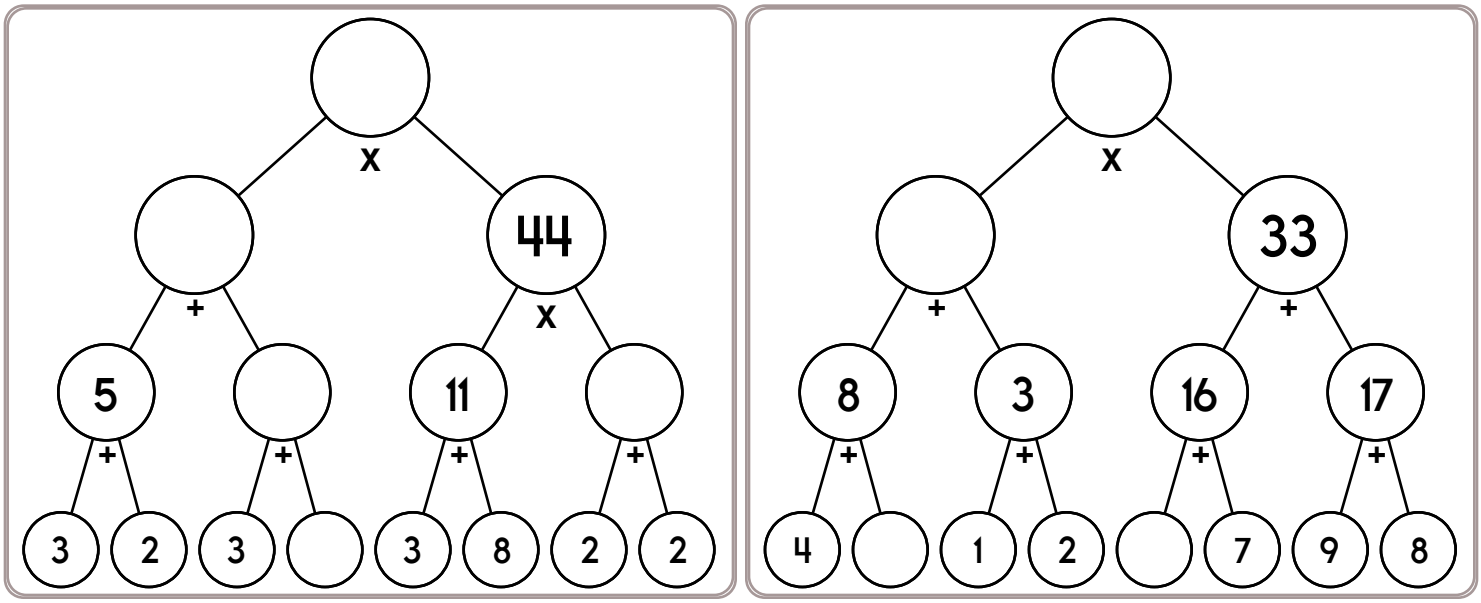
$$\begin{array}{r} 453 \\ +\ 334 \\ \hline \end{array}$$

$$\begin{array}{r} 713 \\ -\ 257 \\ \hline \end{array}$$

Name: _____







$7 \div \frac{1}{4}$

How much money is 1 quarter, 1 dime, 1 nickel, and 7 pennies?

10, 12, 14, _____, 18, 20, 22, 24

word root **equi** can mean **fair or equal** **equivocate**

Name: _____

What is the sum in simplest form?

$\frac{1}{3} + \frac{3}{9}$

$\frac{6}{9}$ $\frac{2}{3}$

Skill: Fractions and Mixed Numbers (addition/subtraction)

1 and 6 are _____ numbers.

composite irrational

prime encrypted

Skill: Basics of Fractions and Mixed Numbers

What is the value of

$\frac{4s}{12}$

when s is 9?

9 5 3 2

Skill: Algebra

Order the numbers from least to greatest.

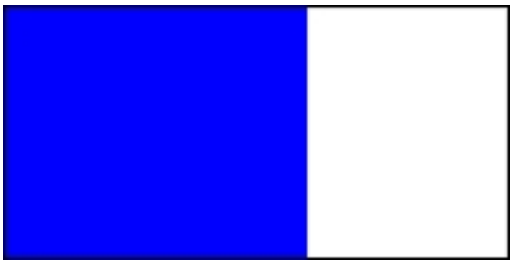
55,623 , 499,765 , 928,424

Rewrite the numbers in order from smallest to largest.

_____, _____, _____

Skill: Whole Numbers

The rectangle is colored sixty percent blue. What percent is white?



Skill: Percents

5 and 2 are _____ numbers.

irrational composite

encrypted prime

Skill: Estimation and Number Theory

Circle the largest number.

$3\frac{1}{3}$ 3.6 $3\frac{1}{4}$

Skill: Positive and Negative Numbers

What is the absolute value of negative thirty-six?

36 -36 72 360

Skill: Positive and Negative Numbers

Name: _____

Complete each pattern. Write what the rule is. Hint: Look for alternating sequences.

Every third number is the greatest common factor.

27, 11, 1, 36, 23, 1, 45, 35, 5, 54,

47, 1, 63, 59, 1, 72, 71, _____, _____, _____

27, 11, 1, 36, 23, 1, 45, 35, 5, 54,

47, 1, 63, 59, 1, 72, 71, 1, _____, _____

Complete each pattern. Write what the rule is.

151.2	138.6	126
113.4		88.2
75.6		50.4
37.8	25.2	

Name: _____

It was a bitterly cold night. The blizzard was brutal. The Red Cross shelter was quickly running out of beds. There were already 121 people huddled in the building on cots. There were only 150 cots available. An emergency call to a local supply store was made. The store owner donated 36 cots to the shelter. The cots cost $26.66 each. How much would the 36 cots have cost if they had not been donated?

The half-time program of the high school marching band requires that each band member take three hundred nine steps from the time he/she steps onto the field until the time the program is over. If there are one hundred twenty-two members in the band, how many steps will the band members take in all?

Anna has a penny collection. There are 124 pennies in the collection. Of those, 56 have not been circulated. Write the fraction of pennies that have not been circulated in simplest form.

Adam was making a vegetarian bean soup. He used $\frac{5}{8}$ cups of lentils, $\frac{2}{3}$ cups of black beans, $1\frac{3}{4}$ cups red beans, and $\frac{3}{4}$ cups of pinto beans. How many cups of beans did he use in all?

Justin made a delicious apple spice cake for the Fall Festival. He cut each cake into 10 pieces. So far, he has sold $\frac{3}{5}$ of the cake. How many pieces has he sold?

Name: _____

Emily bought 28 stamps that cost $0.32 each and 17 stamps that cost $0.35 each for her Older Americans Month cards. She paid for the stamps with a $20 bill. How much change did she receive?

Ms. Anderson used two dozen mudbugs in her soup. The recipe makes 19 cups of soup. Approximately how many mudbugs are in each cup of soup? (Round off the answer to the nearest whole number.)

If a rubber band can be stretched to a circular shape that has a radius of 2.4 inches. How many 1.1-mm diameter toothpicks of could fit within it? (1 inch = 25.4 mm)

The Coca-Cola Company donated 36 cases of Coke products for the Mars Middle School annual picnic. There are 4 dozen bottles per case. Each bottle contains 16 ounces of beverage. How many pints of Coke did the Coca-Cola Company donate?

David found 30 seashells. He put them in a bag and pulled out 4 pink shells out of 12 pulls. Predict the number of pink shells he will pull in 9 more pulls.

Emma is making 5 batches of cheese popcorn and 2 batches of caramel popcorn. She needs $\frac{1}{2}$ of a cup of popcorn for each batch. How many cups of popcorn does she need?

Name: _____

At the party store, Hannah is looking at the premade goodie bags. They sell 5 goodie bags for $5.79. She needs to buy 30 goodie bags. How much will that cost?

Sara and Nathan both drew pictures of robots. Nathan's robot is three times as tall as Sara's robot. If you stack the robots on top of each other, their height is 24 centimeters. How tall is each robot?

Rosa figured out that 20% of 25% of 220 is equal to 11. "Whew!" she thought. "Just a simple multiplication equation once those percents are changed to decimals."
Make a multiplication equation to show that her answer is correct.

April is always running out of batteries, so she's going to stock up. At the store, the best deal she could find was a pack of 16 batteries for $9. She has $60. How many packs can she buy? She cannot break a pack into parts or the owner will not be happy!

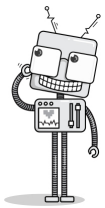
Name: _____

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.

Figure out the greatest common factor of the following numbers:

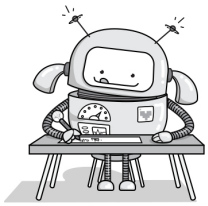
Robot Rob thinks this might be the answer:



You didn't provide any numbers to find their greatest common factor.

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.

You forgot to provide the numbers. Could you please provide the numbers you want the greatest common factor of?

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.

7

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.

Figure out the greatest common factor of the following numbers:

Name: _____

Now, it's your moment to shine! After observing the robots' attempts and fine-tuning their efforts, it's your turn to step up and give it a go!

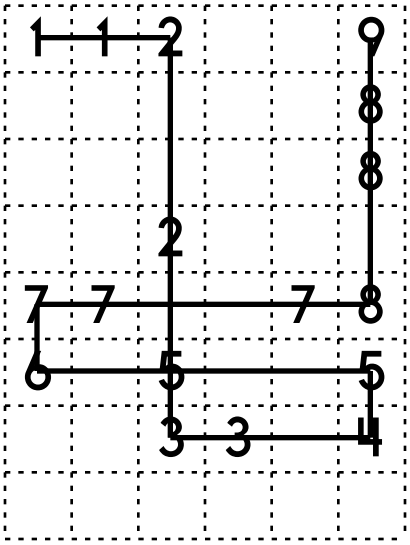
Figure out the greatest common factor of the following numbers:

99 81 36

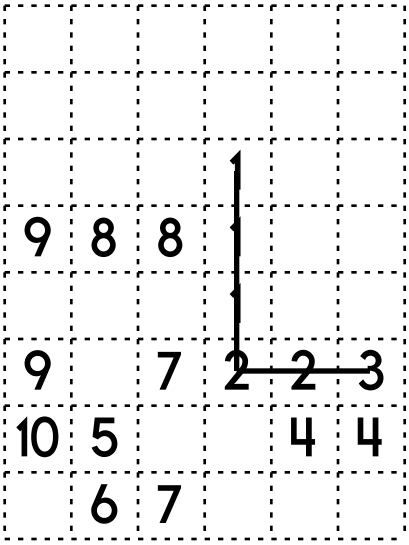
Name: _____

Can you draw lines to cover every number or shape in the picture?
You can only move left, right, up, or down. And definitely no starting or stopping in a blank spot!
The first one is already done for you. Good luck.

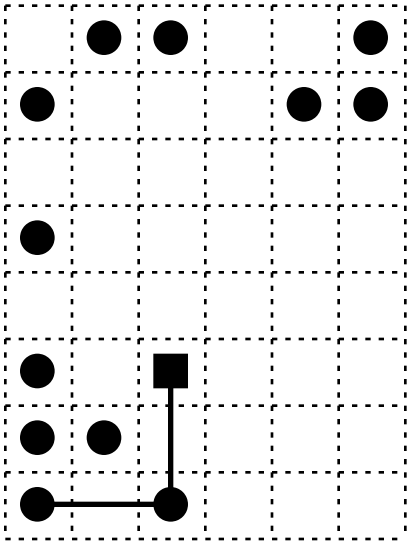
Draw exactly 8 lines.
Start on 1.
Do not pick up your pencil.



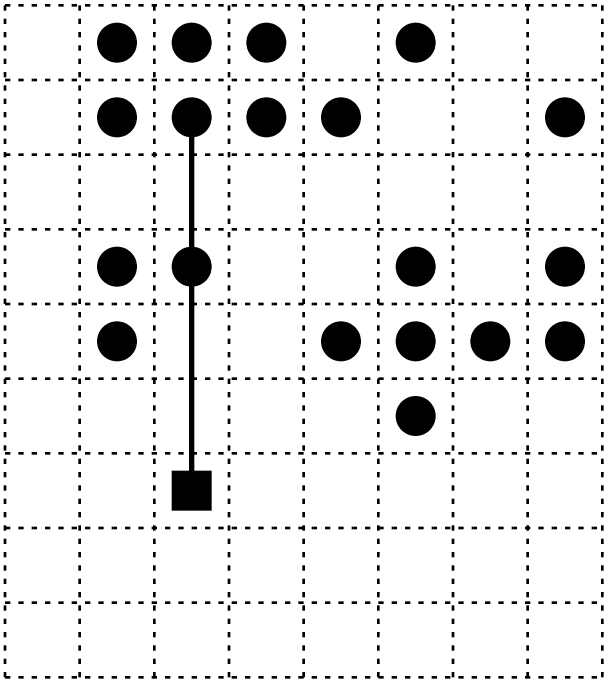
Draw exactly 9 lines.
Start on 1.
Do not pick up your pencil.



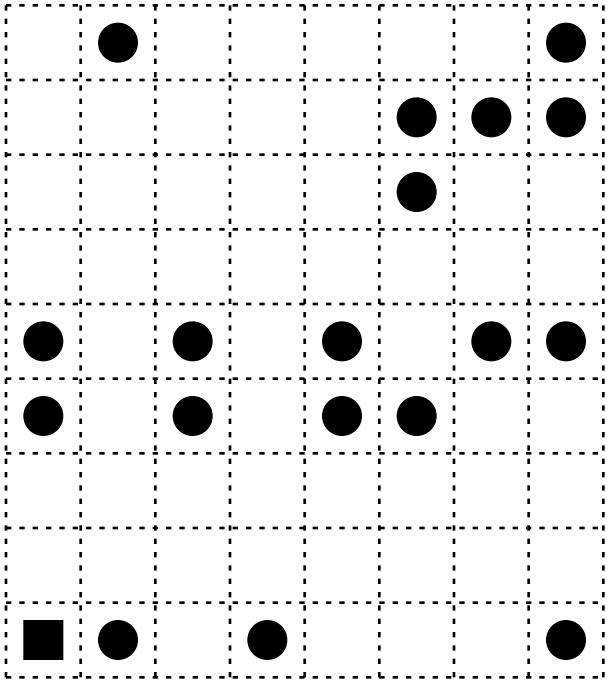
Draw exactly 7 lines.
Start on the square.
Do not pick up your pencil.



Draw exactly 7 lines.
Start on the square.
Do not pick up your pencil.



Draw exactly 9 lines.
Start on the square.
Do not pick up your pencil.



☐ I did page 18 ☐ I decided to skip this page

Name: _____

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

|-13| - y = 20

y =

If s = 7 and g = -13 then what is the value of x?
4s - 9g + 4g = x

In what quadrant would you find the point (-4, 13)?

Megan told the class that they should drink about 1.86 liters of water per day. There are 21 kids in the class, including Megan. They will all try to do that. How much water will the class drink in a day?

Write as an algebraic expression.

967.6 multiplied by the sum of x and n

If

1,000,000,000

$= 10^x$, then what is the

value of x?

What is the area of a rectangle with a length of 44 centimeters and a width that is $\frac{1}{4}$ the length?

Simplify.

$\frac{30}{54}$ =

If 3x = 51, then x =

☐ I did page 19 ☐ I decided to skip this page

Name: _____

Spin again. **I needed to spin _____ time(s) to finish.**

$\frac{5}{7} \times \frac{6}{12}$

$\frac{7}{9} \times \frac{2}{9}$

t - 10 + t = 20
What is the value of t?

If s = 8, m = -5, and h = 14 then what is s + m + h?

The letter p is used to represent power points in a game. The points must be greater than 230 but less than 366. Express this as an inequality.

Rewrite $\frac{19}{25}$ as a decimal.

9 + 60 ÷ 6 - 56 ÷ 8 =

57, _____, 83, 96, 109, 122

8.9399×10^4 =

22 - t + 5 = 16
What is the value of t?

Use >, <, or = to complete.

$\frac{2}{4}$ ___ 13%

$\frac{3}{12}$ ___ 89%

$\frac{3}{10}$ ___ 54%

p - $51 = $40
What is the value of p?

Name: _____

Kealani was excited to spend the whole day baking with her grandma. Her grandma had promised to show Kealani some of the family's Hawaiian recipes. They gathered all the ingredients for pineapple cookies, macadamia nut cookies, and haupia. She loved listening to her grandma tell stories about her childhood in Hawaii as they listened to music and made messes in the kitchen. Before long, the kitchen smelled like paradise. They baked 4 trays of each sweet treat. For the cookies, they could make a dozen cookies on each tray. They were able to cut the haupia into 16 pieces and place 16 pieces on a tray. Once all the cookies had cooled and the haupia had hardened, Kealani and her grandma divided the goodies up evenly onto plates that they could give to five of their neighbors. How many treats did each neighbor receive?

Show your work.

Name: _____

Paul started chopping down 500 trees at 8:45 a.m. one morning. He finished the last tree at 10:26 a.m. How much time did he spend chopping?	It was Emma's turn to milk the two cows. She started milking them at 5:24 a.m. and finished at 7:29 a.m. How long did it take her to milk the two cows?

A 12 cm x 12 cm x 12 cube was made by Kevin. He used centimeter blocks. How many blocks did he use?	9 km = _____ m

Wendy wrote down a fraction on a piece of paper. If you take her fraction and multiply it by five you get fourteen. Can you guess what her fraction is?	43 + 24	87 - 41

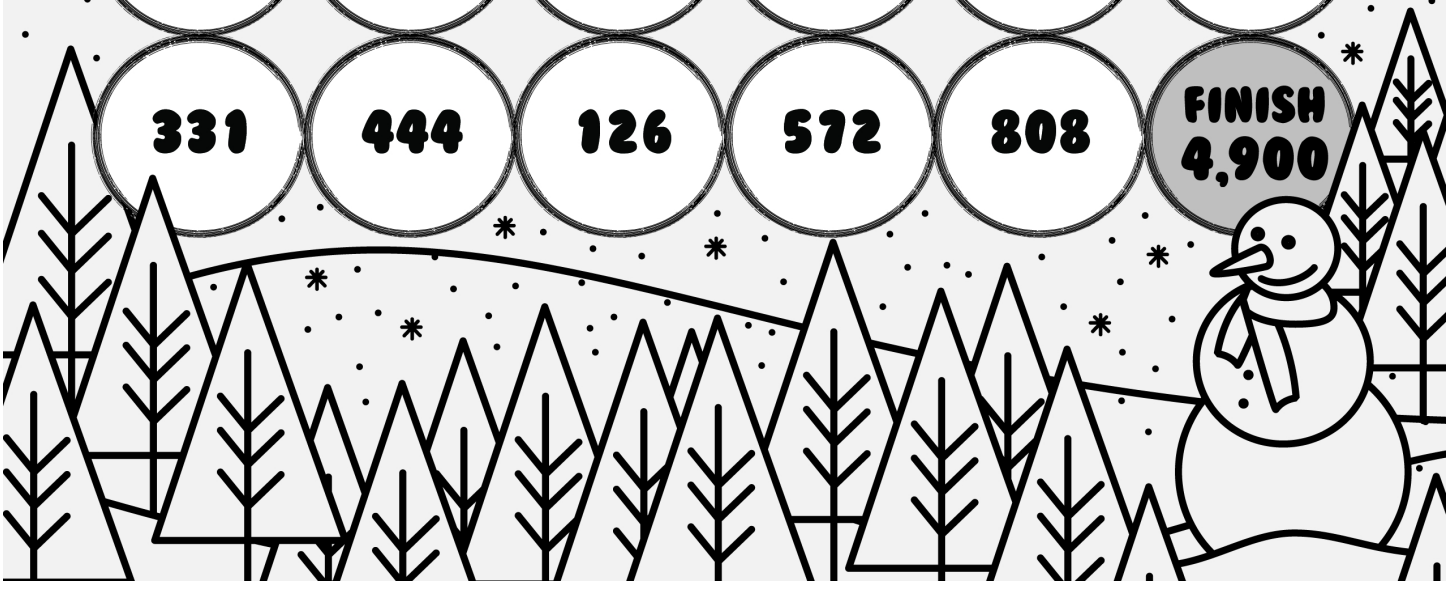
word root **doc** can mean **teach** **document, docent**

Name: _____

SNOWBALL RUN

Directions: Start the snowball maze with zero and find your way to the finish by adding the numbers along the way. If your total is the same as the number in the snowball finish, you have completed the maze correctly. If not, you have to start over. *(*Note: You can only go down and to the right.)*

START 0	305	264	417	192	557
159	776	993	652	304	891
910	391	665	109	701	523
607	122	441	938	205	679
150	889	327	774	603	838
331	444	126	572	808	FINISH 4,900



Name: _____

Each box needs a number from 1 to 9. You may re-use numbers.
One set of sums has been done for you.

sum of 9 →				sum of 7 →			
sum of 7 →					sum of 10 ↓		
sum of 6 ↓	sum of 9 ↓		sum of 5 ↓	sum of 7 ↓		sum of 6 ↓	
						2	
						1	sum of 8 ↓
		sum of 5 ↓				3	
	sum of 8 →			sum of 6 →			

sum of 4 →					sum of 9 ↓		
	sum of 5 ↓	sum of 10 ↓		sum of 8 ↓		sum of 5 ↓	
sum of 4 →	1		sum of 9 →				
sum of 7 ↓	4		sum of 7 →				
	sum of 8 →					sum of 8 ↓	sum of 6 ↓
			sum of 4 ↓		sum of 5 →		
	sum of 7 →						
	sum of 7 →						

Rewrite these in increasing order of length:

283 mm, 558 dm, 4 cm, 18 km

Jenna is younger than Amy. Holly is younger than Amy. Who's the youngest?

3 x 8 = _____

33,697 - 31,643 = _____

How many pounds are in 128 ounces?

_____ pounds

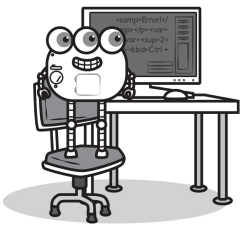
887 - 839 = _____

7 x 7 = _____

Anne took three numbers greater than 1 and multiplied them. One number was seven and the other number was twenty. Of course, she forgot the last number, but she remembered the product was 840. Is this possible?

word root **tort** can mean **twist** **contorted, torture**

Name: _____



Robot was given a math problem to solve.

The forestry service planted 14 rows of trees on Arbor Day. There were 15 trees in each row. How many trees did they plant in all?

Robot wrote this program in Python to solve it.

```
rows_of_trees = 14
trees_in_each_row = 15

total_trees_planted = rows_of_trees * trees_in_each_row

print(total_trees_planted)
```

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

Hints and Questions

To multiply in Python * is used.

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

In the program, "rows_of_trees" is called a variable.
It is used to store a value. Name two other variables used in the program.

Name: _____

Jacob and Jenna started a band. Jenna plays the harp and Jacob the piano.
Sometimes Hannah comes to sing, and today is one of those times. In fact, they invited everyone from their school to the show.
It was a hit! They could barely fit everyone in the garage.
Hunter let everyone in at the door. The garage door, that is! Of course, he didn't do very well counting.
"I know there were definitely more girls than boys. I'd say about 10 more girls than boys," Hunter pointed out. "Seems like for every 3 boys there were 5 girls."
"Wow," said Hannah. "So, um, what was the total attendance?"
Let's just assume Hunter's numbers are correct as suspect as that may be ;-). Answer Hannah's question.

Show your work.

Name: _____

FUN BREAK!

Play a game online!

edHelper.com/math-games.htm

I PLAYED ONE GAME

☐ (Check the box after you play.)

MY SCORE

_____

$3\overline{)1.8}$

Change $\frac{54}{100}$ to a decimal.

$7\overline{)2.8}$

If v = -5 and x = 31 then what is the value of b?
5v - 8x + 4x = b

0.4 (0.7 (0.4 x 6)) =

Circle the percentage that is closest to 29 out of 65:
58%
88%
58%
14%

48 ÷ 12 = _____

Name: _____

Wendy wrote the number 4 on a card and put it in a hat. Then, she wrote the number 8 on a card and put it in the same hat. Wendy then randomly took out the cards from the hat to make a number. What is the probability that her three-digit number is more than 028?

For the challenge below, make a fraction by picking any 2 of these numbers:
5, 9, 4, or 15.

a. Make the closest fraction that you can to 0.

b. How close is this fraction to 0?

1	2	3
80	88	96
104	112	120
128	136	144
152	160	168
176	184	192

a. If this pattern continues, in which column would the number 7,424 be?

b. If this pattern continues, would the number 8,192 be in any of the columns? If so, which column?

Five players in a basketball game scored points. The players averaged 10 points each. Here are their scores.

6, 14, _____, 8, 10

Can you figure out the missing number?

Name: _____

Give two answers for x in each equation.

$$|x + 13| = 6$$

$$|10 - x| = 4$$

Rewrite this mixed number as an improper fraction.

$11\frac{9}{11}$

Name: _____

The sum of two numbers is $44\frac{1}{5}$.

If you take the first number and subtract it by the second, the difference is 13.

What are the two numbers?

Pam lives at the point (-7, -13). She wants to go to the closest mall. There are two malls on the map. Mall AA is at (-15, -16), and Mall BB is at (-9, -12). On the map she can only travel vertically or horizontally, one unit at a time. She cannot go diagonally. So she could go from (1,3) to (1,4) or (1,3) to (2,3), but not from (1,3) to (2,4). Which mall is closer to her?

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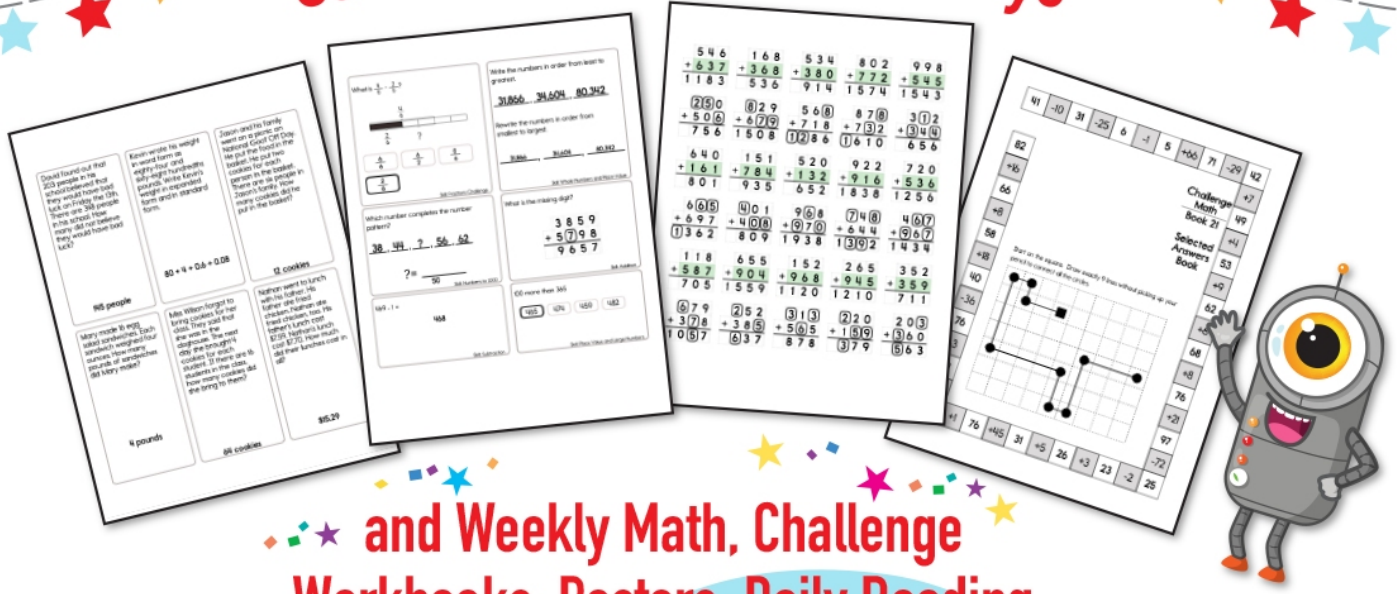

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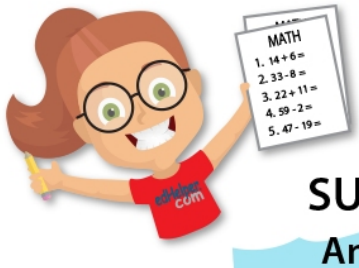

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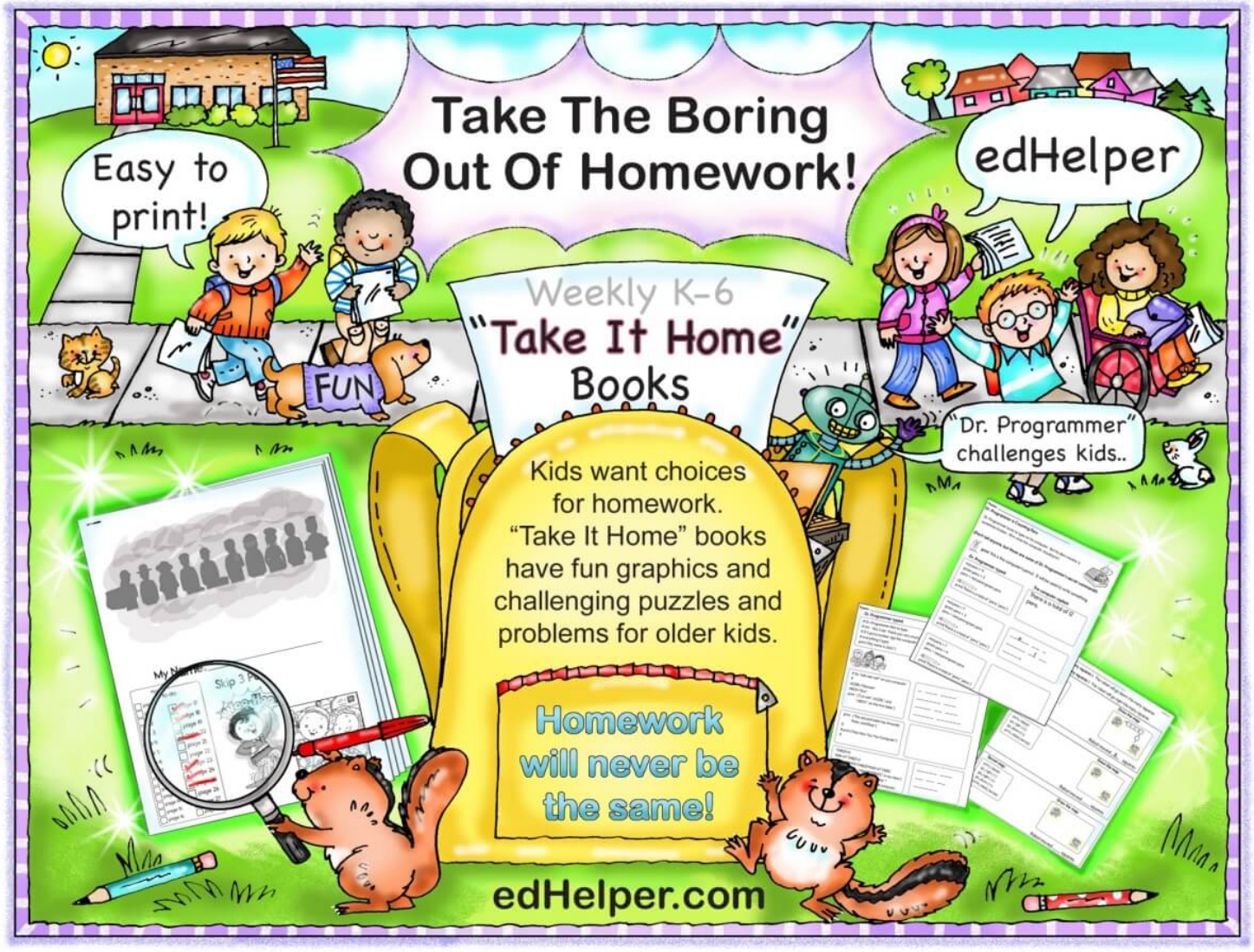
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