25	+4		+1		+47		+8		-11	
77										-63
-7										+64
+15										-39
-29										-2
+6										-17
+62										+34
										51
-33										+26
	-3		+55		-77		+46		-35	

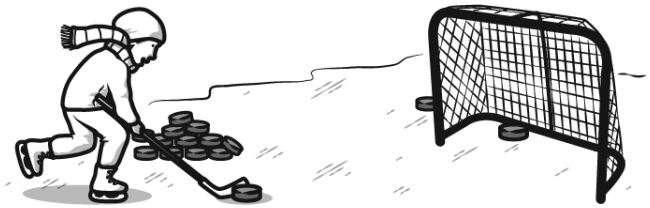
Name: _____

Pick 29 to do: Skip 2 pages.

☐ page 1	☐ page 8	☐ page 15	☐ page 22	☐ page 29
☐ page 2	☐ page 9	☐ page 16	☐ page 23	☐ page 30
☐ page 3	☐ page 10	☐ page 17	☐ page 24	☐ page 31
☐ page 4	☐ page 11	☐ page 18	☐ page 25	
☐ page 5	☐ page 12	☐ page 19	☐ page 26	
☐ page 6	☐ page 13	☐ page 20	☐ page 27	
☐ page 7	☐ page 14	☐ page 21	☐ page 28	

Challenge Math

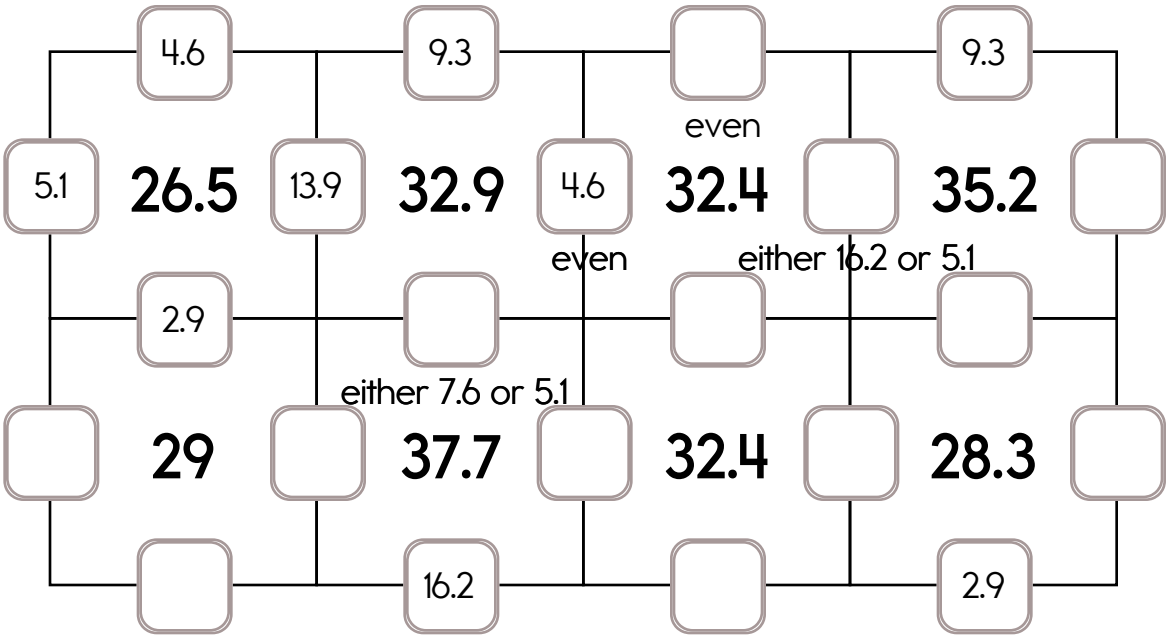
Book 24



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: 20.4, 13.9, or 16.2.

The other three numbers have to all be DIFFERENT and must be from these: 9.3, 4.6, 8.8, 0.4, 7.6, 2.9, or 5.1.



Name: _____

2 x (80 ÷ 8) - 88 ÷ 11 =

What is the greatest common factor of the numbers 117 and 26?

Rewrite $\frac{9}{20}$ as a decimal.

Find the least common denominator for the fractions $\frac{5}{6}$ and $\frac{11}{16}$.

Rewrite as an algebraic expression or equation.

The quotient of 105 and d is 7.

Rose climbed 9 meters in only 22.3 seconds. How many meters did she climb per second?

If a = 7 and b = 8, then
2a + b =

0.5 (0.6 (0.5 + 2)) =

If 3x = 57, then x =

Convert $24\frac{8}{9}$ to an improper fraction.

What is the mode of the following number set?

72, 65, 61, 68, 63, 77, 76, 62, 78, 75, 79, 66, 74, 67

If y = 7 and h = -25 then what is the value of w?
8y - 10h - 2h = w

Name: _____

(10 + 13) + 7 = 2(v + 13)

What is the value of v?

0.4 x 0.8

$2.2135 \times 10^3 =$

What is the prime factorization of 36?

7, 7, _____, 4, 4, 7, 7, 7,

7, 7, 4, 4, 7, 7, 7, 7, 7, 7,

7, 4, 4, 7, 7, 7, 7, 7, 7, 7

p - $69 = $29
What is the value of p?

$\frac{3}{6} \times \frac{7}{9}$

Use >, <, or = to complete.

$\frac{2}{10}$ ___ 41%

$\frac{1}{2}$ ___ 13%

11% ___ $\frac{1}{12}$

7 + 3 x 10 + 5

0.08 x 0.6

Simplify.

$\frac{16}{40} =$

12 + 7 x 9 - 1 - 5

Circle the percentage that is closest to 33 out of 52:

37%
57%
16%
75%

7z - 9.8 = 53.2

z =

Circle the least amount:

44%
0.37

$\frac{4}{25}$

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 5 →						
	sum of 9 ↓	sum of 6 →	2	2	2		
sum of 4 →					sum of 8 ↓	sum of 8 ↓	
		sum of 10 ↓	sum of 9 →				
	sum of 10 ↓		sum of 6 →				
sum of 3 ↓			sum of 9 →				
			sum of 7 →				

sum of 10 →							sum of 3 ↓
sum of 6 ↓		sum of 8 →					
		sum of 5 →					
	sum of 10 →						
		sum of 4 ↓	sum of 8 ↓	sum of 10 ↓		sum of 10 ↓	
	sum of 9 →						
	sum of 7 →	1	2	4			
	sum of 6 →						

Amy rolls a die. What is the chance of her rolling a 4?

_____

For 593,231,107,476, write the digit that is in the ten thousands place.

_____

$$\begin{array}{r} 37 \\ -\ 24 \\ \hline \end{array}$$

Here is a pattern of letters:

P B D B P B D B P . . .

What letter will be the 19th term in the pattern?

16 ÷ 8 = _____

$$\begin{array}{r} 47 \\ +\ 39 \\ \hline \end{array}$$

87,965 - 16,784 = _____

5 x 6 = _____

$$\begin{array}{r} 299 \\ +\ 339 \\ \hline \end{array}$$

word root **dict** can mean **say** **dictionary, dictate**

☐ I did page 4 ☐ I decided to skip this page

edHelper

Name: _____

181 - ____ = 120	____ - 90 = 511
____ - 31 = 130	407 - ____ = 356
____ - 10 = 598	____ - 77 = 468
446 - ____ = 413	277 - ____ = 206

430	541	340	210	428
- 62	- 85	- 94	- 52	- 24
456	488	689	814	325
- 56	- 88	- 31	- 60	- 32

21 = 3 x 7	21 = ____ x 7	8 = ____ x 2	24 = 6 x ____
8 = 4 x ____	10 = ____ x 5	36 = ____ x 9	10 = 2 x ____

Name: _____

The local football team wants to purchase enough tarp material to cover their field during bad weather. The field, including the end zones is 120 yards long and 50 yards wide. They want to get exactly fifteen percent more than is needed to cover the field so some of the sidelines and area beyond each end zone are covered as well. How many square yards of tarp material should they buy?

Some animal heads were stored at the veterinary office in a freezer. They were to be tested to see if the animals had rabies. If they had 12 specimens and could test one every half-day (a day being a workday of about 8 hours), how many days would it take to test them all?

Write the number that when multiplied by 8 is -88. _____

What number multiplied by -10 results in a product of -80? _____

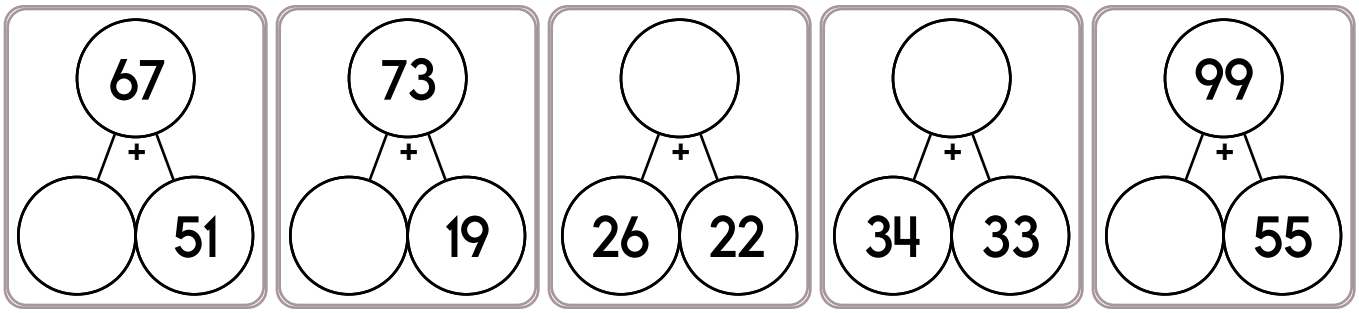
$5 \times 5 \times 5 \times 5 = x^4$

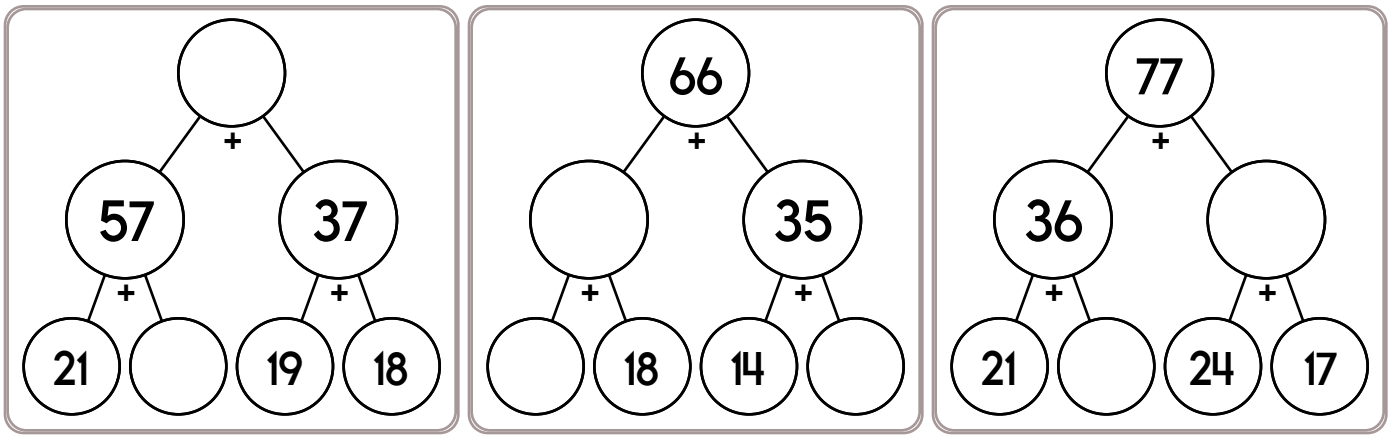
What is the value of x?

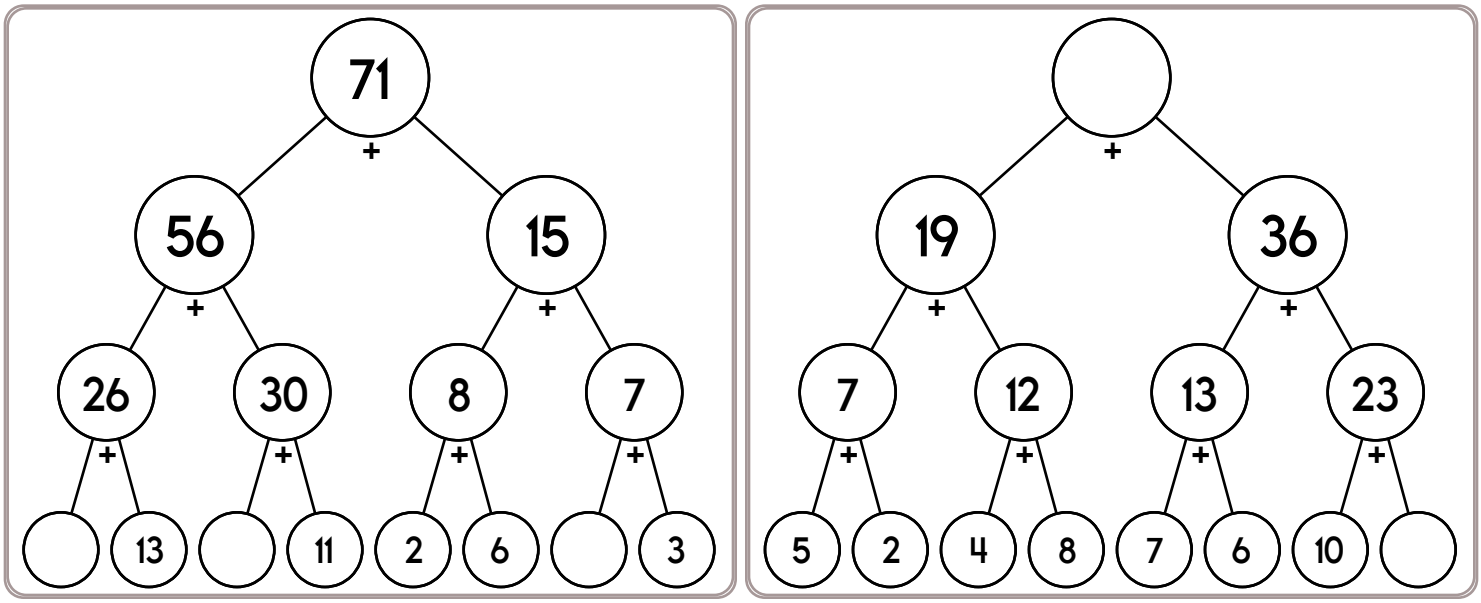
473 ÷ 10

What is the remainder of 59 divided by 18?

Name: _____







Write as a decimal.

$\frac{6}{100}$

Write as a decimal.
Forty thousandths

Write as a decimal.

$12\frac{36}{100}$

word root **tomy** can mean **cut** **appendectomy, tonsillectomy**

Name: _____

$\frac{1}{10}$ =

0.01 | 0.1 | 10.1

Skill: Basics of Fractions and Mixed Numbers

What is 17 ÷ 6 expressed as a mixed number?

Skill: Fractions and Mixed Numbers (addition/subtraction)

Which is equal to 31 + 13y?

31 + 13 x y | (31 + 13) x y

Skill: Algebra

The number 6,546 rounded to the nearest _____ is 6,550.

100 | 100,000 | 10 | 1,000

Skill: Estimation and Number Theory

Circle the three prime numbers.

There may be multiple answers.

2 | 29 | 13 | 27

Skill: Whole Numbers, Factors, and Prime Numbers

Multiply $\frac{1}{2}$ by $\frac{3}{6}$ and simplify answer.

$\frac{1}{4}$ | $\frac{3}{12}$ | $\frac{4}{6}$

Skill: Fractions and Mixed Numbers (multiplication/division)

Use paper and pencil to answer.

The sum of 255 and 471 is _____.

Skill: Whole Numbers

One hundred people were asked, "Would you rather go to the pool or the beach?" Seventy-nine said they would go to the beach. What percent would go to the beach?

0.79% | 39% | 158% | 79%

Skill: Percents

Circle the largest number.

$2\frac{1}{4}$ | 2.3 | 2.5

Skill: Positive and Negative Numbers

Circle the smallest number.

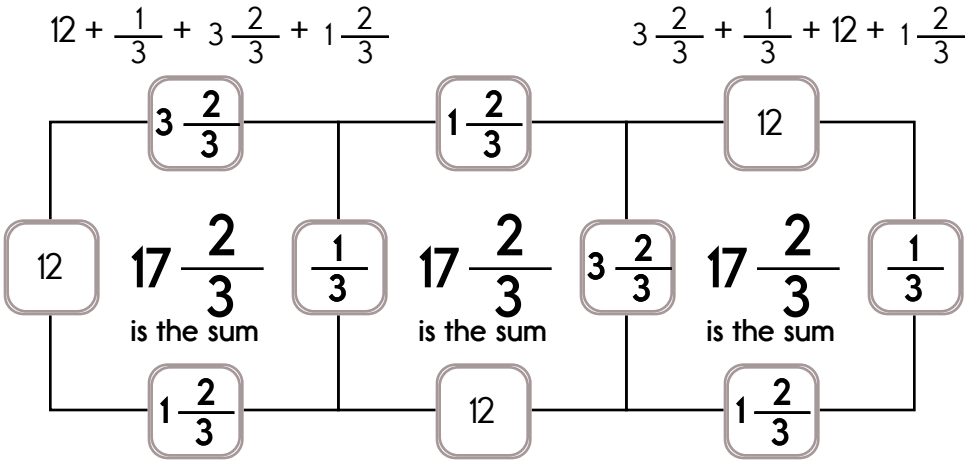
3.9 | 4.8 | $2\frac{1}{2}$

Skill: Positive and Negative Numbers

Name: _____

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

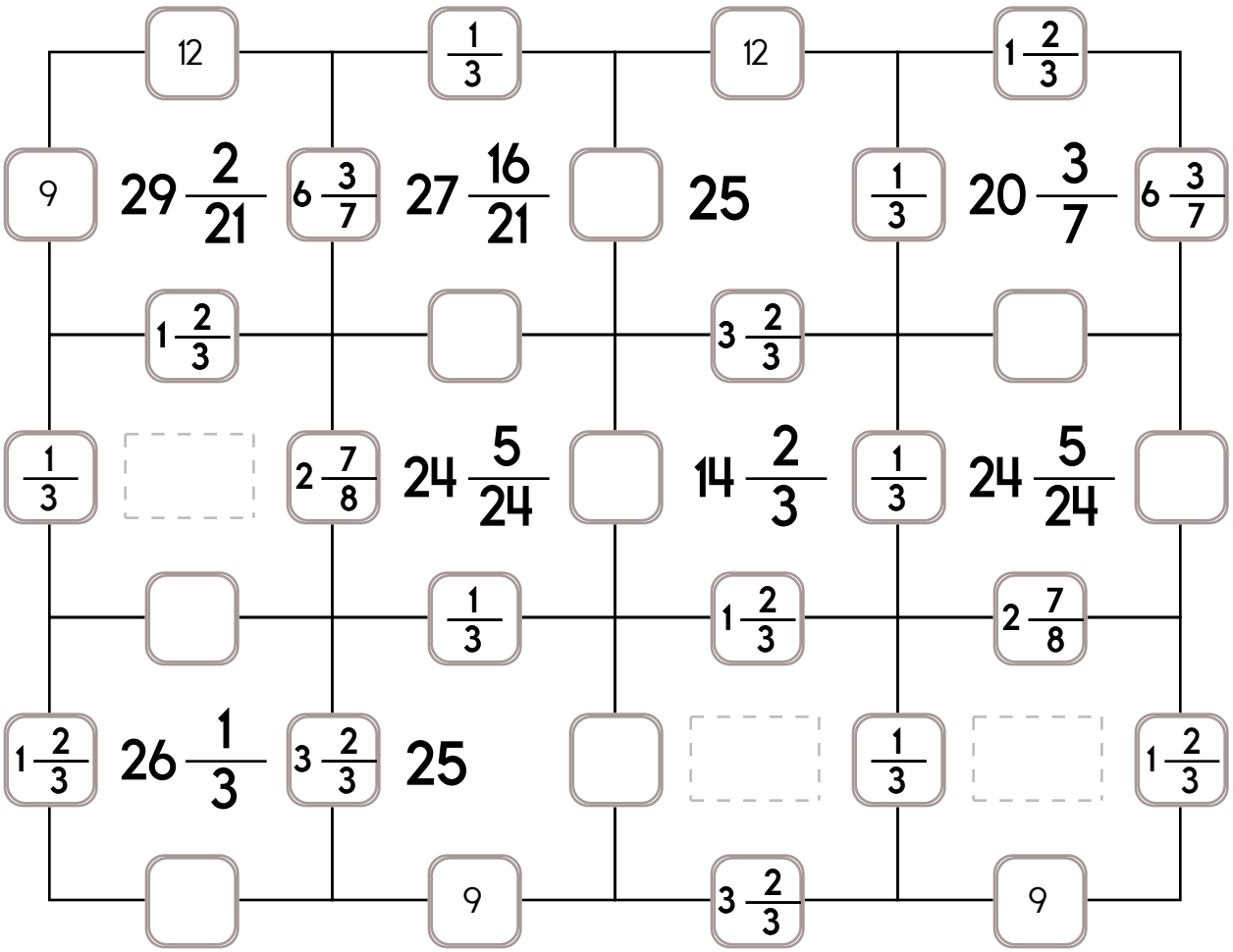
Sample:



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: $3\frac{2}{3}$, $6\frac{3}{7}$, or $2\frac{7}{8}$.

The other three numbers have to all be DIFFERENT and must be from these: $\frac{1}{3}$, 9, $1\frac{2}{3}$, or 12.

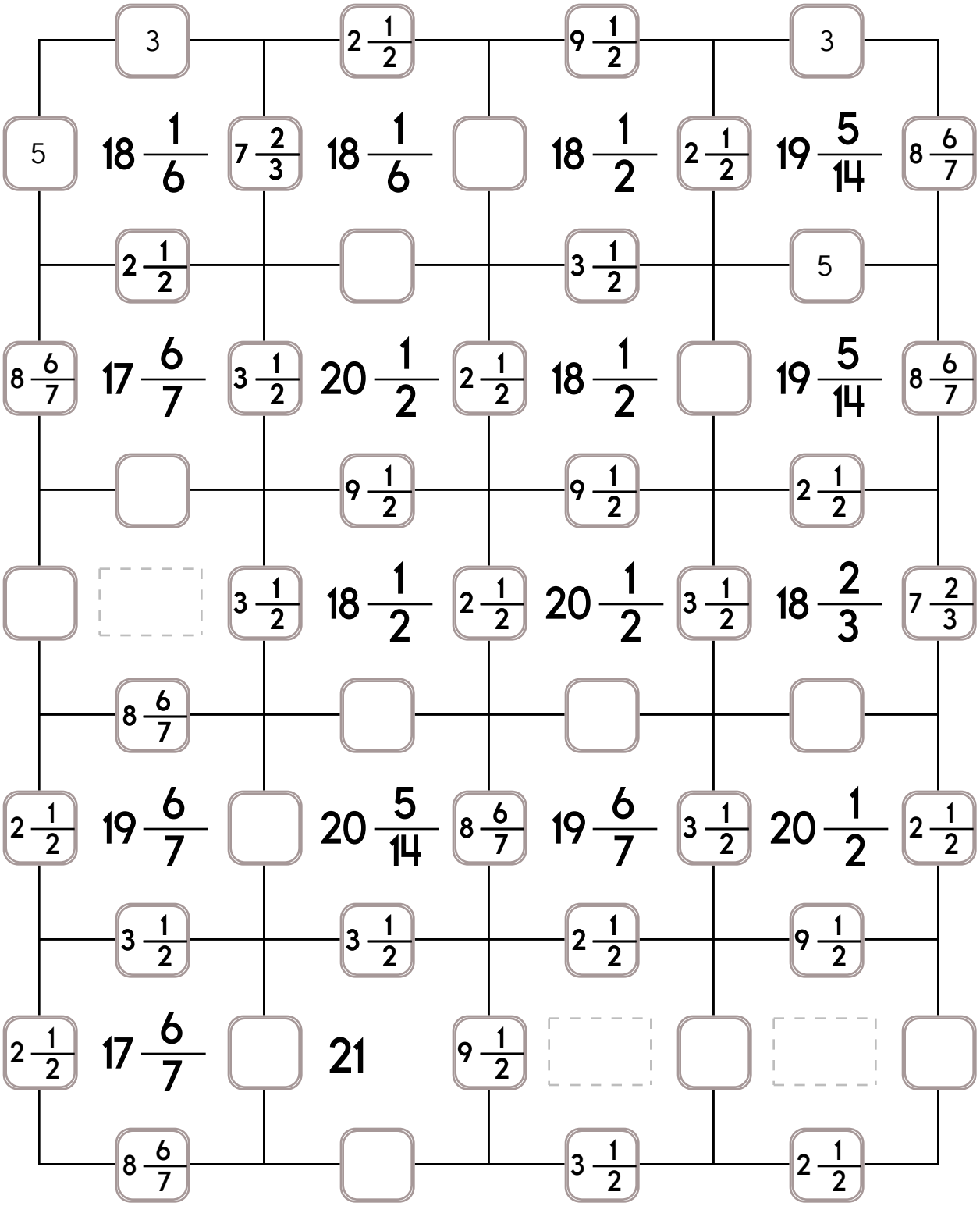


Name: _____

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: $9\frac{1}{2}$, $8\frac{6}{7}$, or $7\frac{2}{3}$.

The other three numbers have to all be DIFFERENT and must be from these: $3\frac{1}{2}$, 3, $2\frac{1}{2}$, or 5.



Name: _____

FUN BREAK!

Play a game online!

edHelper.com/math-games.htm

I PLAYED ONE GAME

☐ (Check the box after you play.)

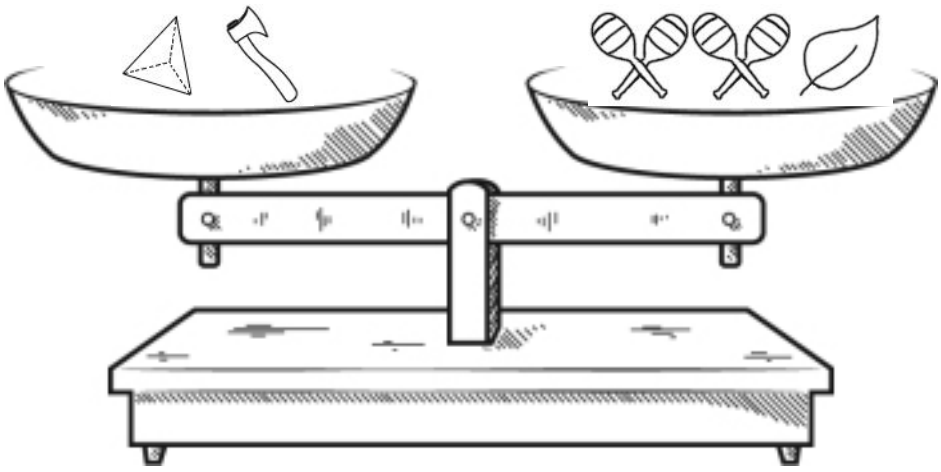
MY SCORE

_____

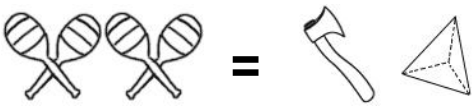
What is the least common multiple of 4 and 2?	m - 10 = 2	What is the greatest common factor of 5 and 15?
If a = -5 and b = 45 then what is the value of m? 11a - 11b - 2b = m	57, 76, 95, 114, _____, 152, 171	t - 6 + t = 26 What is the value of t?

☐ I did page 11 ☐ I decided to skip this page

Name: _____

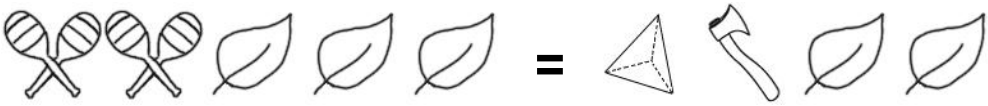


☐ True ☐ False

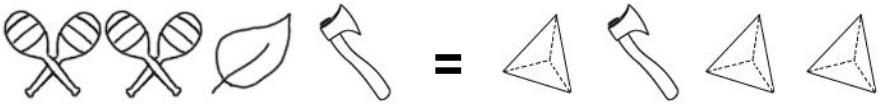


☐ True ☐ False

☐ True ☐ False



☐ True ☐ False



☐ True ☐ False

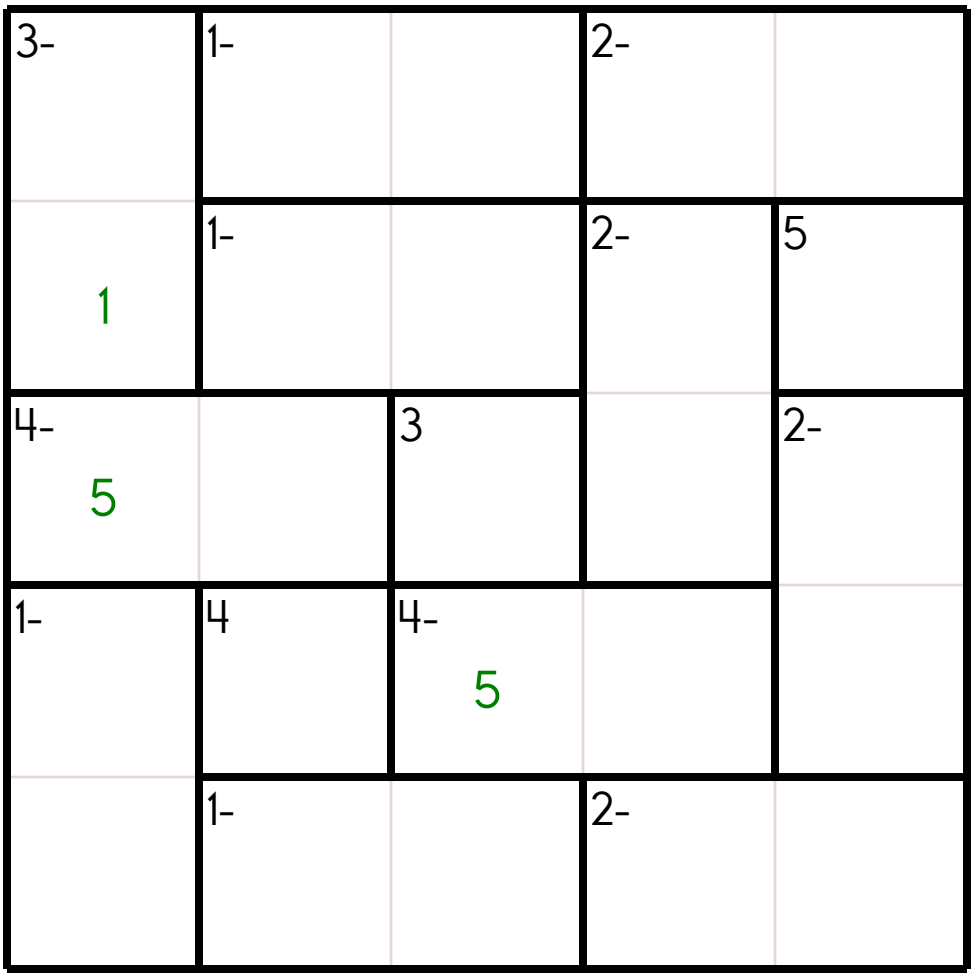
☐ True ☐ False

Did you find that two are true? If not, look again!

You should only mark TRUE if you are absolutely sure it is correct!

Name: _____

Fill in each box of the edHelperKu puzzle, using the numbers from 1 to 5.
Every row must contain the numbers 1, 2, 3, 4, and 5.
Every column must contain the numbers 1, 2, 3, 4, and 5.
In a cage with a subtraction sign, the given number will be the difference. The largest number will always be the box with the clue.



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

5 - ____ = 4

5 - ____ = 4

____ - 1 = 1

3 - ____ = 2

____ - 2 = 2

4 - ____ = 2

____ - 1 = 3

5 - ____ = 1

Name: _____

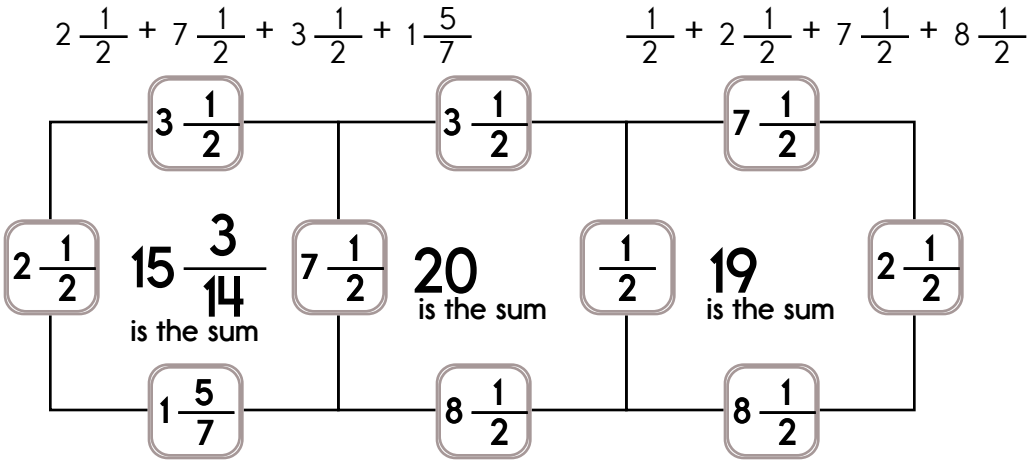
Write your own math problem here.

Ask the person who helped you to try to solve your problem.

Name: _____

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

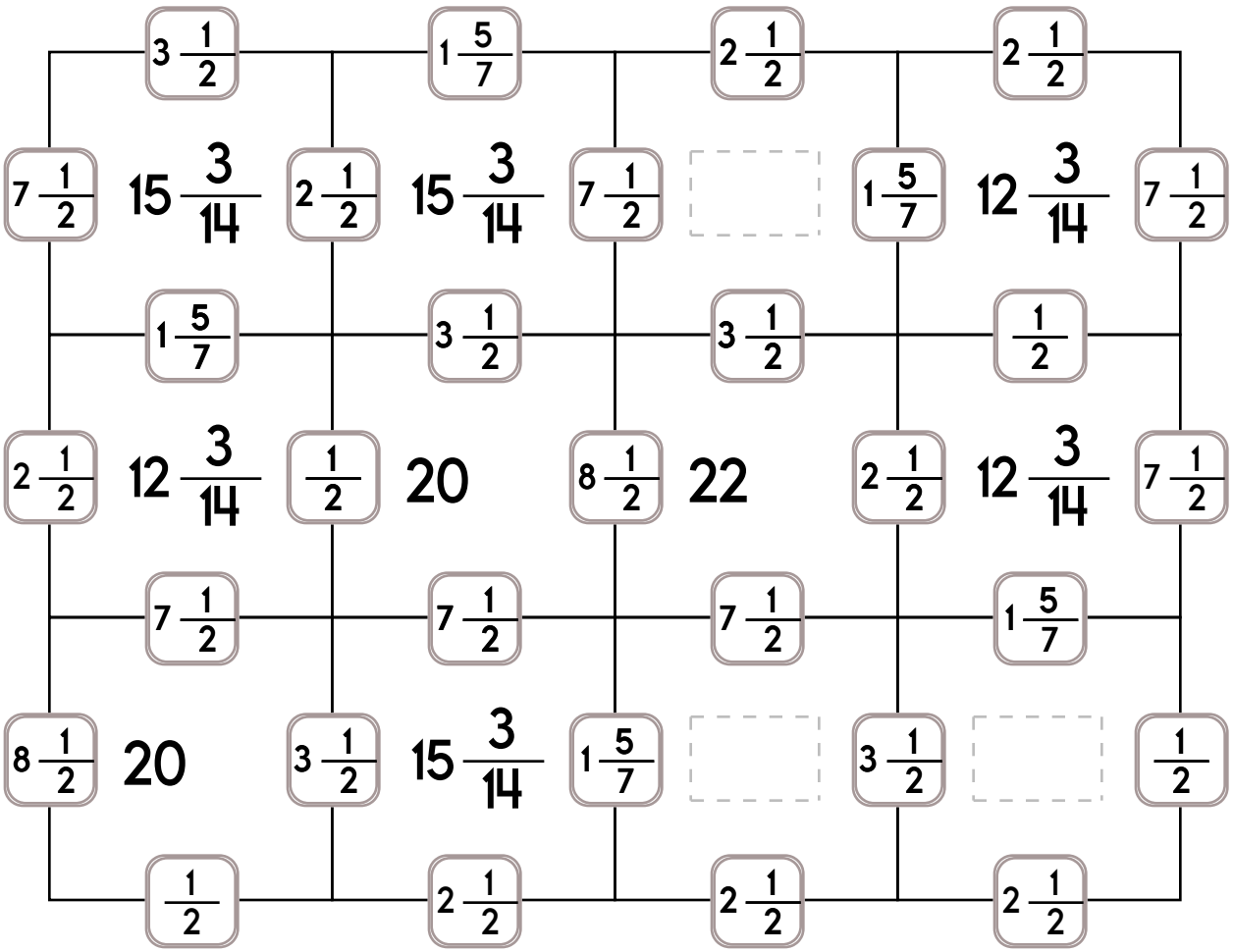
Sample:



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

The other three numbers have to all be DIFFERENT and must be from these: $2\frac{1}{2}$, $7\frac{1}{2}$, $3\frac{1}{2}$, or $\frac{1}{2}$.

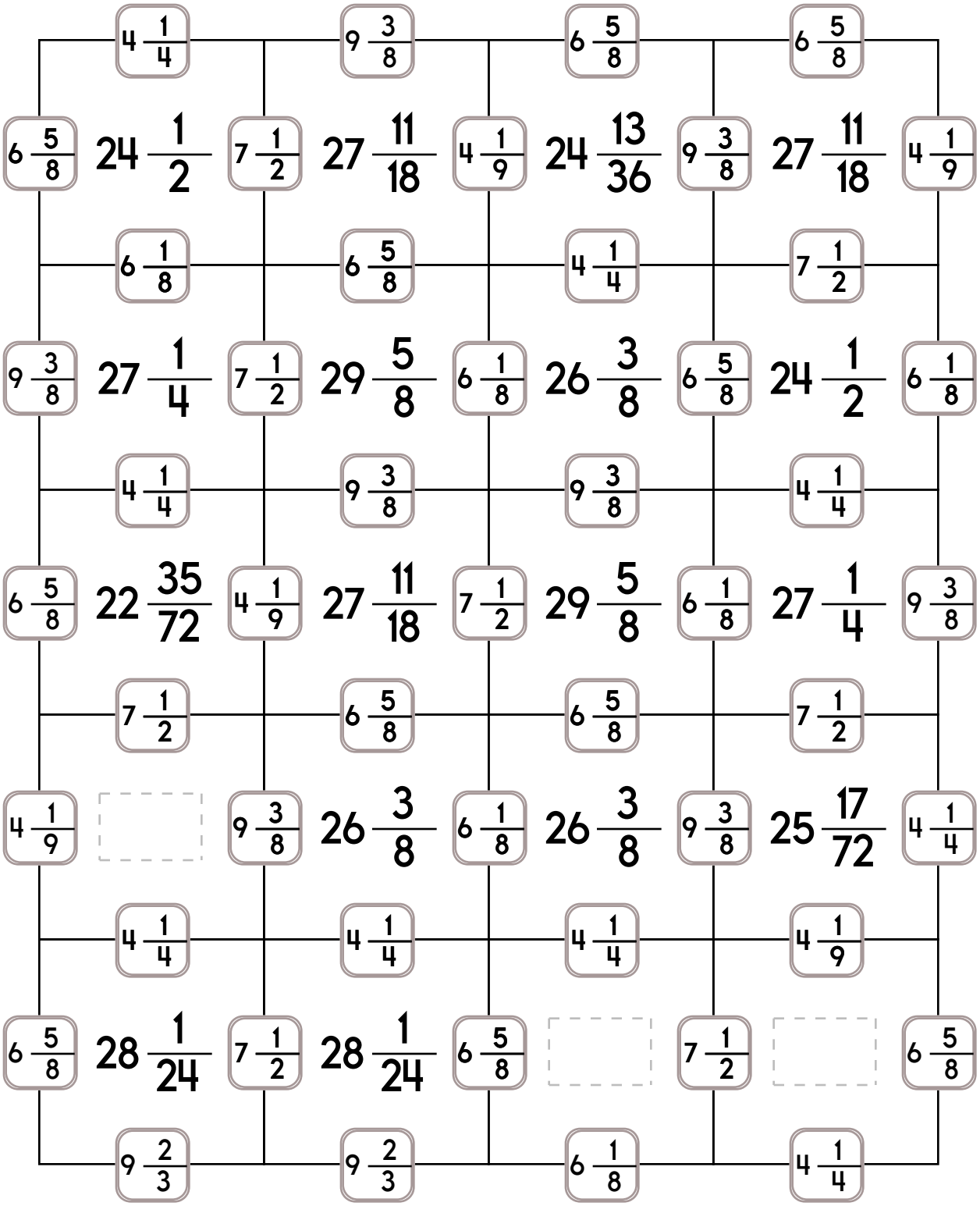


Name: _____

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: $6\frac{1}{8}$, $4\frac{1}{9}$, or $9\frac{2}{3}$.

The other three numbers have to all be DIFFERENT and must be from these: $4\frac{1}{4}$, $7\frac{1}{2}$, $6\frac{5}{8}$, or $9\frac{3}{8}$.



Name: _____

Circle all of the numbers that are greater than 6.3.

$6\frac{3}{4}$ $\frac{216}{32}$ $\frac{16}{3}$ $\frac{13}{2}$

$\frac{38}{5}$ $\frac{123}{18}$ $\frac{23}{4}$ $6\frac{4}{5}$

$\frac{23}{3}$ $\frac{31}{5}$ $6\frac{3}{9}$ $\frac{42}{6}$

6.09 6.8 6.0120 6.80

Estimate quickly the difference.
5,330 - 1,190

Pick the family fact that is missing.
98 ÷ 14 = 7
7 x 14 = 98
14 x 7 = 98

$8 \div \frac{1}{2}$

50, 60, _____, 80, 90, 100

The radius of a circle is 371 cm. What is the diameter of this circle?

Round 12,609 to the nearest thousand.

4 x 3 = _____

9 km = _____ m

Name: _____

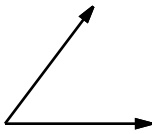
Pick the correct answer using brain power. No writing.

0.2 x 0.3 is what? 6 or 0.06 or 0.006

0.10 x 0.6 is what? 0.06 or 60 or 0.006

0.02 x 0.12 is what? 0.024 or 0.000002 or 0.0024

2.5 x 0.6 is what? 0.0015 or 1.5 or 150



What kind of angle is this?

Sketch 2 lines $\overleftrightarrow{IJ}$ and $\overleftrightarrow{XY}$ that are intersecting.

A rectangle is 24 cm on one side and 13 cm on another side. What is the perimeter?

5, 7, 9, 11, _____, 15, 17, 19, 21

9 x 9 + 3 + 8

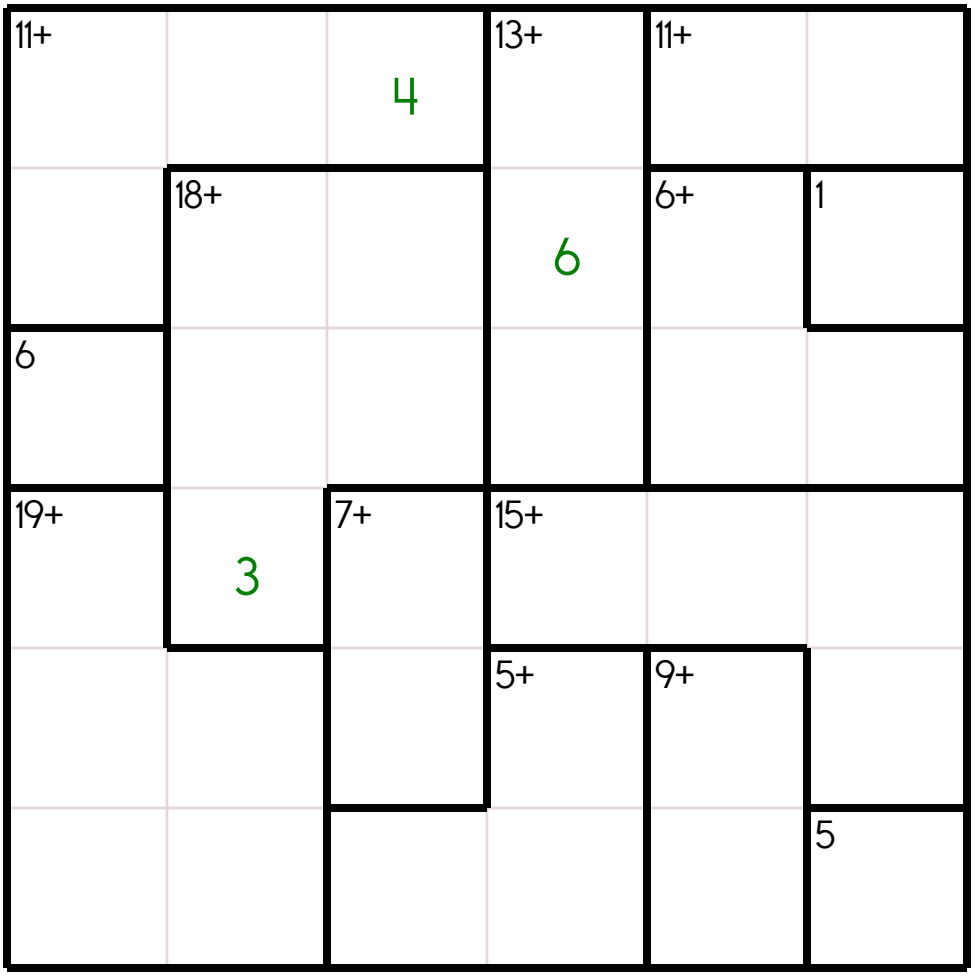
51,329 + 89,864 = _____

1 lb = 16 oz

15 lb = _____ oz

Name: _____

Fill in each box of the edHelperKu puzzle, using the numbers from 1 to 6.
Every row must contain the numbers 1, 2, 3, 4, 5, and 6.
Every column must contain the numbers 1, 2, 3, 4, 5, and 6.
In a cage with a plus sign, the given number will be the sum of all the digits in the cage.



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

____ + 1 + ____ = 6

____ + ____ + 3 + ____ + ____ = 18

2 + ____ + ____ = 5

____ + 6 = 11

1 + ____ + ____ + ____ + ____ = 19

____ + 4 + ____ + ____ = 15

3 + ____ = 9

6 + ____ = 7

____ + 6 + ____ = 13

____ + ____ + ____ + 4 = 11

Name: _____

Complete each pattern. Write what the rule is.

6, 10, $6\frac{1}{5}$, $10\frac{1}{5}$, _____, _____, $6\frac{3}{5}$, $10\frac{3}{5}$, $6\frac{4}{5}$, $10\frac{4}{5}$, 7, 11, $7\frac{1}{5}$, $11\frac{1}{5}$

_____, _____, $5\frac{1}{5}$, $15\frac{1}{5}$, $5\frac{2}{5}$, $15\frac{2}{5}$, $5\frac{3}{5}$, _____, $5\frac{4}{5}$, $15\frac{4}{5}$

There are two alternating sequences here. Add $\frac{1}{5}$ to both.

Complete each pattern. Write what the rule is. HINT: The first two numbers in each pattern are random numbers.

3, 12, 15, 27, 42, 69, 111, 180, 291, 471, 762, 1233, _____, _____

6, 19, 25, 44, 69, 113, 182, 295, 477, 772, 1249, 2021, _____, _____

Name: _____

FUN BREAK!

Play a game online!

edHelper.com/math-games.htm

I PLAYED ONE GAME

☐ (Check the box after you play.)

MY SCORE

_____

$\frac{N}{40} = 36$	$8m = 24$	$19y = 76$
Rewrite $\frac{7}{100}$ as a decimal.	$4 + 72 \div 9 - 32 \div 8 =$	What is the greatest common factor of the numbers 84 and 98?

Name: _____

$$\begin{array}{r} 19.05 \\ \times \quad 0.4 \\ \hline \end{array}$$

$$\begin{array}{r} 7.6 \\ -\,1.56 \\ \hline \end{array}$$

Write the decimal number for:

four ten-thousandths

Use >, <, or = to complete.

364 ___ 366.78

29.500 ___ 29.5

230 ___ 234.6

2.7 ___ 2.92

409.42 ___ 404

15.36 ___ 15.6

218 ___ 215.3

Change $\frac{4}{20}$ to a decimal.

$14\overline{)310.8}$

10,000 x 13.8 =

$$\begin{array}{r} 3.92 \\ \times \quad 9.6 \\ \hline \end{array}$$

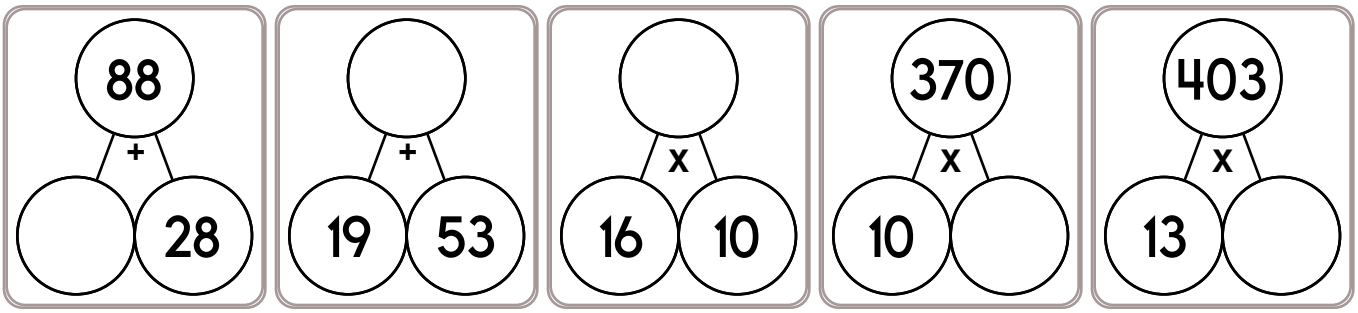
$$\begin{array}{r} 5.64 \\ \times \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5{,}386.2 \\ 6{,}198 \\ +\,5{,}515 \\ \hline \end{array}$$

$$\begin{array}{r} 997{,}864.8 \\ 924{,}542.27 \\ 904{,}806.26 \\ +\,533{,}113.7 \\ \hline \end{array}$$

$0.029\overline{)1.5718}$

Name: _____



Yummy Donuts gave two dozen chocolate donuts and six dozen jelly donuts to the school. How many donuts did they give?

It was 83 degrees outside. What would the temperature be if it got 11 degrees colder?

Round 13,609 to the nearest thousand.

5, _____, 7, 12, 9, 19, 11,

26, 13, 33, 15, 40, 17, 47

42, $40\frac{1}{4}$, $38\frac{1}{2}$, $36\frac{3}{4}$, 35, $33\frac{1}{4}$, $31\frac{1}{2}$, _____, 28, $26\frac{1}{4}$, $24\frac{1}{2}$, $22\frac{3}{4}$, 21, $19\frac{1}{4}$

Circle the three numbers whose product equals 160.

4 5 10

4 4 6

The perimeter of a rectangle is 18 cm. The longer side is 7 cm. How long is the shorter side?

How many centimeters in 570.9 meters?

7 + (12 + 4) + 5

Name: _____

Cross off the number that does NOT belong.

9, 90, 98, 980, 988, 2961, 9880

Why does _____ not belong in the pattern?

Cross off the number that does NOT belong.

(322,687,697,779), (16,983,563,041), (893,871,739),

(47,045,881), (2,476,099), (130,321), (6,859),

(361), (277), (19)

Why does _____ not belong in the pattern?

Name: _____

Find 2 equations hidden in each box. Good luck!

85
168
219
640
59 x 8
61 + 1
95 x 7
32
43 x 3
44 + 3
51
16 + 1
7 + 31
91 x 4
62
472
72 x 8
44

Write 2 equations: _____ _____

78 + 97
117
64 + 56
80
8 x 7
63
48 + 26
5 x 6
175
120
24 + 86
124
7 x 7
14
27
85

Write 2 equations: _____ _____

86
686
25
24 + 7
21
531
97
99 x 2
4 + 85
98 x 7
3 + 17
53
95 + 2
344
72 x 3
32 x 7

Write 2 equations: _____ _____

Name: _____

Find 2 equations hidden in each box. Good luck!

18 x 8

31 + 24

117

855

492

84

65 + 71

416

139

87

31 x 5

27 + 60

212

136

143

Write 2 equations: _____ _____

72

33

40 + 42

73

7

30

6

11 + 22

100

6 x 5

99 + 57

94 + 80

70

42 + 22

5 x 3

91

66 + 85

Write 2 equations: _____ _____

29 + 19

50 + 55

34

31 + 47

85

12 + 22

66 + 65

39 + 26

51 + 47

98

15

42

72

88 + 51

6 x 2

61

56

Write 2 equations: _____ _____

Name: _____

Mrs. Jones is old. "I am NOT! I'm 26," Mrs. Jones says.
"Yeah, sure," says her student, Pam, who is 10. "My mom says you might even be 90!"
"Okay, sweetie. I'm younger than 90," Mrs. Jones says to Pam. "If you divide my age by yours, you will have a remainder of 4."
Mrs. Jones is always giving her students a headache. "If you divide my age by 8, you will have a remainder of 2."
That got Pam thinking. "If it helps, the tens digit of my age is three more than the ones digit," she whispered to Pam.

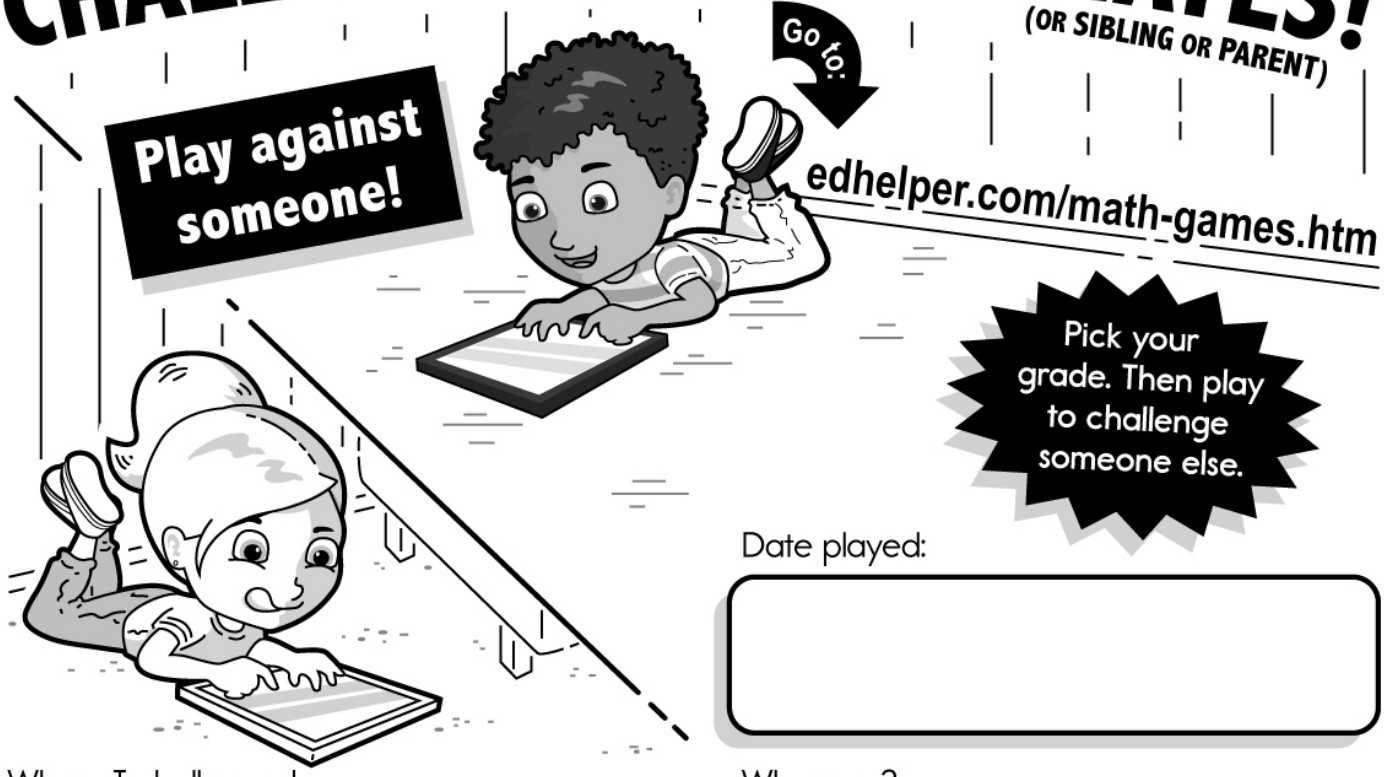
How much older is Mrs. Jones than Pam?

How old is Mrs. Jones?

Name: _____

CHALLENGE YOUR CLASSMATES!

(OR SIBLING OR PARENT)



Date played:

Whom I challenged:

Who won?

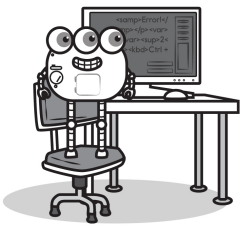
Explain what you learned from one math problem you got wrong.

Multiply 538 and 4.

$$\begin{array}{r} 46 \\ \times\ 19 \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ \times\ 2 \\ \hline \end{array}$$

Name: _____



Robot was given a math problem to solve.

Adam counted the TV dinners in the display case. Half of the dinners were fried chicken. If 6 of the dinners are fried chicken, how many TV dinners are in the display case?

Robot wrote this program in Python to solve it.

```
# Number of Fried Chicken dinners
fried_chicken_dinners = 6

# Total number of dinners
total_dinners = fried_chicken_dinners * 2

print("The total number of TV dinners in the display case is ", total_dinners)
```

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

The total number of TV dinners in the display case is ____ ____

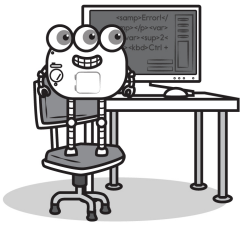
Hints and Questions

To multiply in Python * is used.

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?

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

Name: _____



Robot wrote this program to solve a math problem.

```
# Define the variables
total_players = 52
players_per_team = 4

# Perform the division to get the number of teams
teams = total_players / players_per_team

# Print the result
print("There will be", int(teams), "teams.")
```

What will the program print out? Fill in the blanks.

There will be ____ ____ teams.

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

Name: _____

Coach Dave is proud of his hockey team. They had a great season and only lost in the finals to a really good team.
Coach Dave wants to give his best player a trophy. Only 4 players scored during the season.
Jack played 15 games, scored 12 goals, had 6 assists, and spent 22 minutes in the penalty box.
Bob played 13 games, scored 8 goals, had 10 assists, and spent 10 minutes in the penalty box.
Arnold played 16 games, scored 2 goals, had 20 assists, and spent 43 minutes in the penalty box.
Anna played 14 games, scored 3 goals, had 9 assists, and spent 18 minutes in the penalty box.
She was the only girl on the team.
Help Coach Dave decide who most deserves the trophy. What would you say to Coach Dave?

Show your work.

Name: _____

Draw a polygon with an area close to 14 square units and with a minimum of 7 sides.

The students chosen for the class play were posted. All of the students in the play are in Mrs. Wilson's class and were born in months with exactly 30 days. For each student, write whether they are in the play, might be in the play, or are not in the play.

Adam is in Mrs. Wilson's class and was born on May 26.

Kevin is in Mrs. Wilson's class and was born on January 19.

Mary is in Mr. Miller's class and was born on November 21.

Megan is in Mrs. Wilson's class and was born on September 9.

Rosa is in Mrs. Hernandez's class and was born on April 18.

Estimate the smallest product you think you could get by multiplying two positive whole numbers. The first number needs to have 1 digit, and the second number needs to have 2 digits. Explain your estimation.

Now try to actually find the smallest product.

Anne got $260 on her birthday. She decided to invest her money. She bought her first shares of stock by buying 10 shares of The Zoomery Company (TZC). Each share cost $8.40 on her birthday.

Six weeks later the price was $10.61, and she sold all of her shares. Ten weeks after that the price was still rising. It was $11.37, and she decided to repurchase 10 shares of TZC. In two months, the price was dropping. It was now $9.77, and she sold her shares. How much money does she have?

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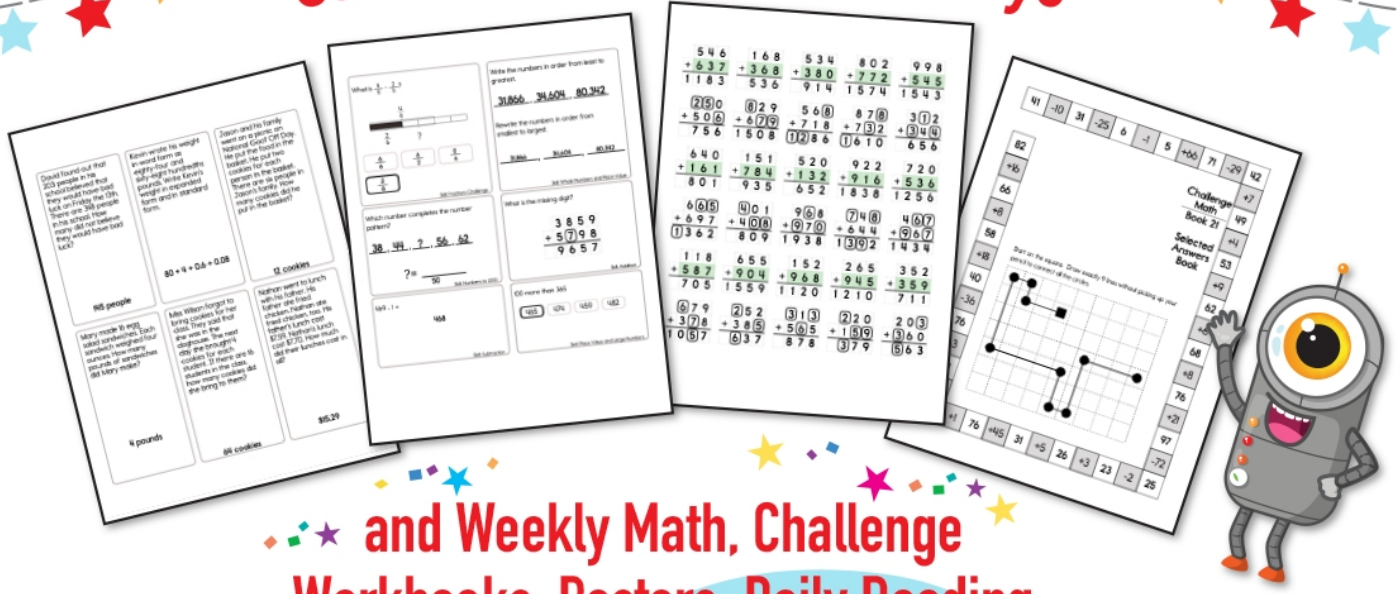

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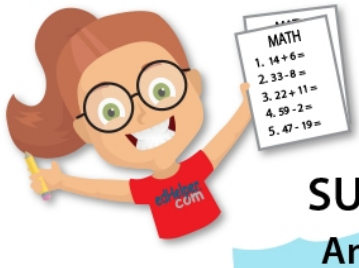

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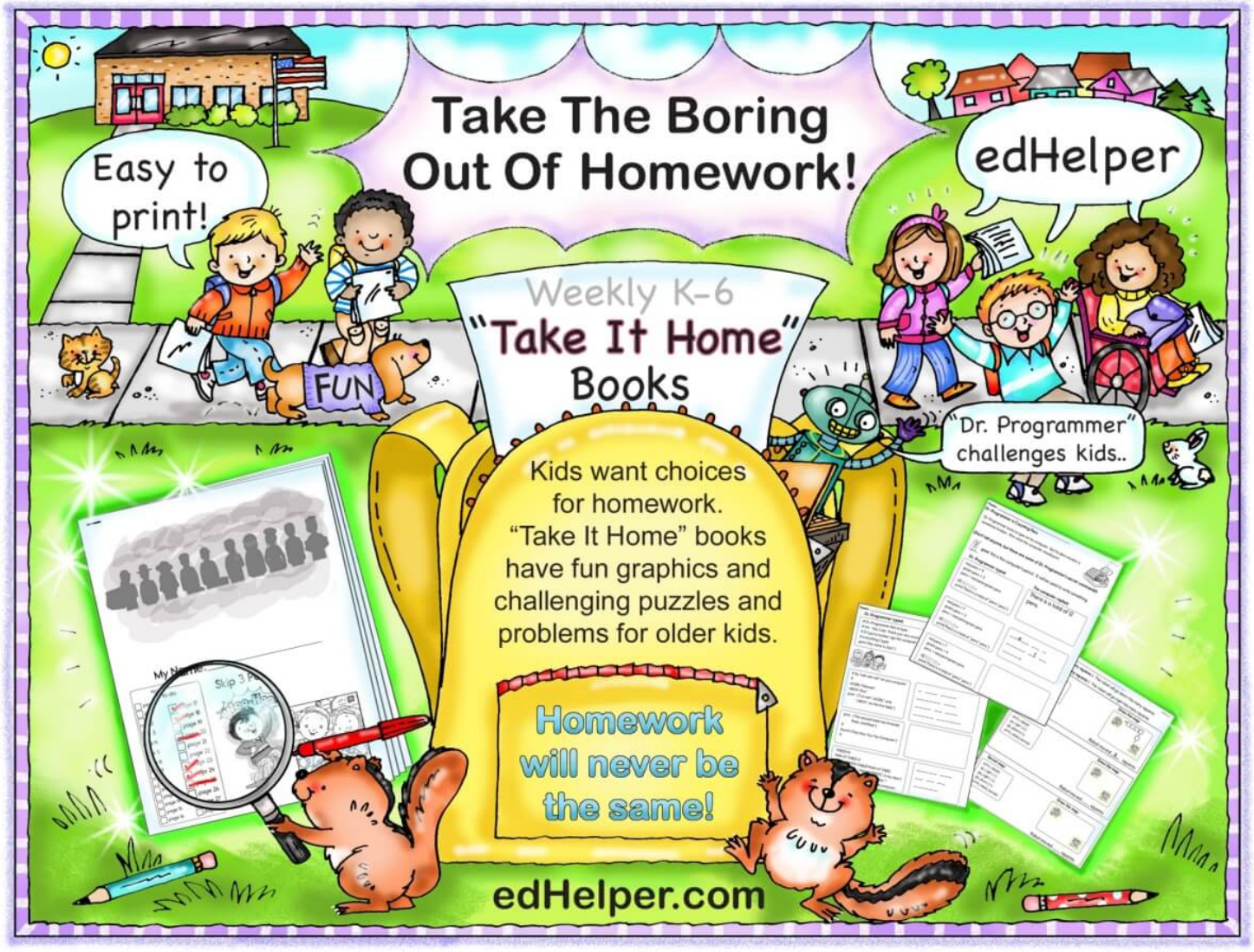
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