

51	$+\frac{8}{10}$		$+44$		$+1$		$-\frac{1}{8}$		$+32$	
----	-----------------	--	-------	--	------	--	----------------	--	-------	--

Name: \_\_\_\_\_

Pick 23 to do:

Skip 2 pages.

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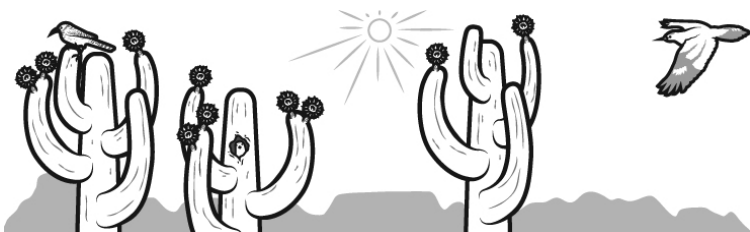
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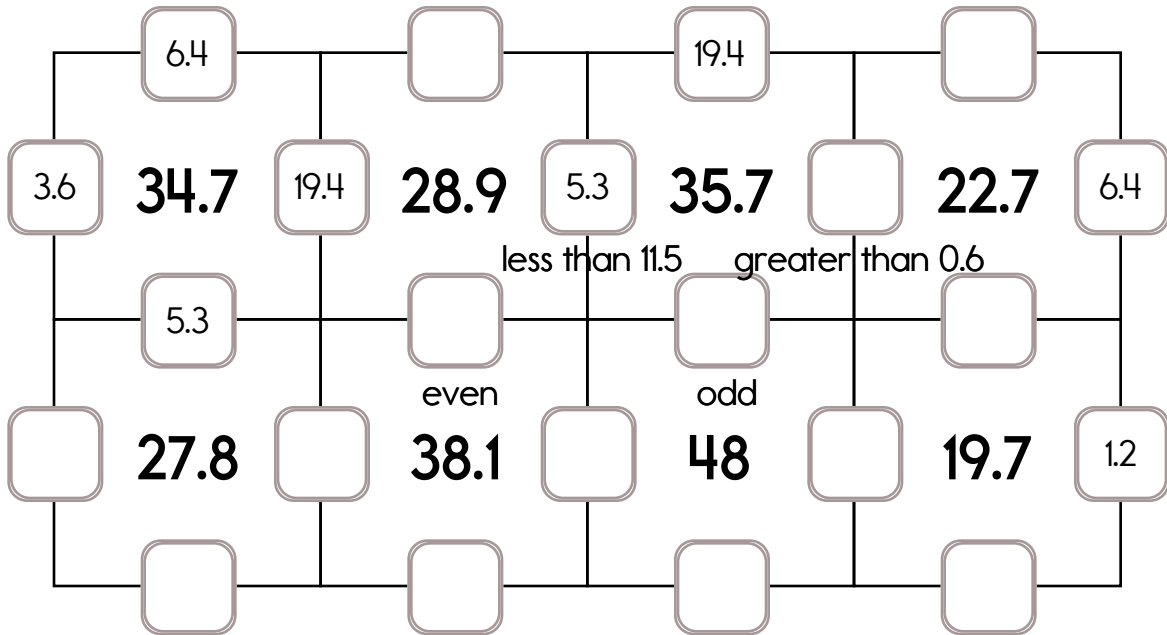
# Challenge Math Book 38



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: 19.4, 11.5, or 28.9.

The other three numbers have to all be DIFFERENT and must be from these: 1.2, 7.4, 0.6, 5.3, 6.4, or 3.6.



52 $\frac{31}{40}$
-50
+31
$-\frac{6}{8}$
+8
$-6\frac{2}{4}$
+14

$+4\frac{4}{8}$
-19
$-\frac{4}{8}$
$+7\frac{1}{4}$
-43
+2
$79\frac{37}{40}$
$+\frac{6}{10}$

$+\frac{2}{4}$	$-\frac{5}{10}$	-37	$-3\frac{2}{4}$	+17
----------------	-----------------	-----	-----------------	-----

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.

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.

9+	10+	4-		3	2-
			3	6+	
5-	9+	3	9+	4	
		2-			3
2-			13+		
6+			15+	4	

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

$$6 - \underline{\quad} = 2$$

$$2 + \underline{\quad} + \underline{\quad} = 9$$

$$\underline{\quad} + 4 + \underline{\quad} = 6$$

$$4 + \underline{\quad} + \underline{\quad} = 15$$

$$\underline{\quad} + 5 + \underline{\quad} = 13$$

$$3 - \underline{\quad} = 2$$

$$\underline{\quad} + \underline{\quad} + 2 = 10$$

$$\underline{\quad} - 1 = 5$$

Name: \_\_\_\_\_

Only use a pencil to write the numbers on the blank lines. You do not need any scrap paper! Solve it in your head. If you forget a number, then start over. Cool, huh?

# Mental Math



= Do it  
in your  
head!

imagine 8 in your head

add 4

multiply 6

Add the tens digit to the ones digit.  
Write the sum.

\_\_\_\_\_  
A

imagine 6 in your head

add 5

double it

add 2

Write the ones digit.

\_\_\_\_\_  
B

imagine 8 in your head

double it

subtract 6

subtract 9

add 4

Write the number.

\_\_\_\_\_  
C

imagine 8 in your head

add 8

double it

subtract 9

Write the ones digit.

\_\_\_\_\_  
D

What is the sum?

A + B + C + D

\_\_\_\_\_

Wow! Great job! That's the answer, but do you know how to SPELL the number?

\_\_\_\_\_ y \_\_\_\_\_ e

8 before 13 \_\_\_\_\_

3 after 16 \_\_\_\_\_

6 before 11 \_\_\_\_\_

7 before 16 \_\_\_\_\_

6 after 17 \_\_\_\_\_

3 before 19 \_\_\_\_\_

2 before 14 \_\_\_\_\_

8 after 18 \_\_\_\_\_

1 before 18 \_\_\_\_\_

4 before 15 \_\_\_\_\_

7 after 19 \_\_\_\_\_

9 before 17 \_\_\_\_\_

☐

I did page 3

☐I decided to skip this page  
edHelper

Name: \_\_\_\_\_

Proteins are made from linear sequences of amino acids. How many different proteins could be made from the amino acids phenylalanine, glutamic acid, and lysine?

About how many times can a piece of wire that is nineteen centimeters long be wrapped around a wooden dowel that is half of a centimeter in diameter? Round your answer to the nearest whole number.

Computer sales at Big Company are down this year. In fact their net profit so far is -2,210,000 dollars (in other words, it is a loss, not a profit). Things are looking better for the company. In fact, Big Company just started making a profit of \$288,000 per month. If the company can keep up this rate of monthly profit, how many months will it take to erase the loss plus show a net profit of at least \$377,000?

A massive dormitory was built on the campus of EdHelper States University. The dormitory consisted of two wings with nine floors per wing. Each floor has twenty rooms. Half of the rooms were private rooms. The remaining rooms were doubles, housing 2 students each. How many students will be lucky and have single rooms in the new dormitory?

Molecule X is formed at a rate of 14.3 billion molecules per second. Chemical Y is formed at a rate of 6.9 billion molecules per second in the same flask. How many more molecules of type X would be formed after 3.4 seconds?

At the local woodworking supply shop unfinished oak boards cost \$3.98 per board foot. A board foot is a piece of wood 12 in by 12 in by 1 in. How much would an unfinished oak board cost if it was six inches wide, one inch thick and seven feet long?

Name: \_\_\_\_\_

Cross off the letter that does NOT belong.

S, D, S, D, S, D, S, D, D, S, D

Why does \_\_\_\_\_ not belong in the pattern?

Cross off the number that does NOT belong.

10, 14, 18, 24, 30, 38, 46, 56, 66, 78, 90, 104, 106, 118, 134

Why does \_\_\_\_\_ not belong in the pattern?

☐

I did page 5

☐I decided to skip this page  
edHelper**Name:** \_\_\_\_\_

On May 5, 1961, Alan Shepard became the first American in space. His flight lasted 15 minutes, 28 seconds, and he reached an altitude of 116 miles above the Earth.

On May 5 of this year, how many days ago was it that Alan Shepard went into space? To make this easier, just assume 365 days per year and ignore leap days.

How many seconds did Shepard's flight last?

There are 0.62 miles in 1 kilometer. How many meters above the Earth did Shepard orbit?

☐

I did page 6

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edHelper

Name: \_\_\_\_\_

Circle all of the numbers that are less than 5.2.

$$\frac{44}{8}$$

$$\frac{33}{6}$$

$$\frac{7}{2}$$

$$5\frac{4}{9}$$

$$\frac{18}{3}$$

$$5\frac{4}{6}$$

$$\frac{32}{5}$$

$$\frac{34}{6}$$

$$\frac{11}{2}$$

$$\frac{28}{6}$$

$$\frac{25}{4}$$

$$5\frac{1}{8}$$

5.11

5.110

5.06

5.030

$$12 + \frac{2}{3} - \frac{2}{3} =$$

Reduce  $\frac{104}{128}$  to its lowest terms.Reduce  $\frac{2}{32}$  to its lowest terms.

How many meters are there in 78 kilometers?

How much time is it from 9:00 a.m. to 10:35 a.m.?

A toy car can go 5 mph. How long would it take to go 12 miles?

$$88 \div 11 = \underline{\hspace{2cm}}$$

$$66 \div 11 = \underline{\hspace{2cm}}$$

$$26 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$$



☐

I did page 7

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edHelper

Name: \_\_\_\_\_

Ready to draw a face? First draw the eyes by drawing two right triangles. Now for the mouth. Draw a trapezoid for the mouth. Draw an octagon for the nose. Now have fun and finish the face!

Write  $\frac{4}{8}$  in lowest terms.

Round 65,817 to the nearest hundred.

$$8 + 6 - 4 + 4$$

$$64 \div 8 + 10$$

What is 50% of 1,142?

$$5\frac{1}{3} + 6\frac{2}{3}$$

How many yards are in 27 feet?

\_\_\_\_\_ yards

April rolls a die. What is the chance of her rolling a 5?

\_\_\_\_\_



Name: \_\_\_\_\_

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

A

281713

-814660

378675

353916

Find a subtraction fact.

B

751689

-77141

316788

296355

Find a subtraction fact.

C

496655

-694376

284091

994551

Find a subtraction fact.

Equations:  
Write the equation facts you found.

A

81	-	46	=	35
B	-		=	16
C	-	40	=	

What is the least common multiple of 11 and 4?

44 + n = 58

What is the least common multiple of 8 and 12?




















A toy car can go 5 mph. How long would it take to go 18 miles?

What is the least common multiple of 4 and 7?

What is 50% of 1,590?

Name: \_\_\_\_\_


Puzzle:

					22
9					32
	9				30
	9				40
	9		9	9	47
36	38	25	34	38	+


Work Area:


					22
9					32
	9				30
	9				40
	9		9	9	47
36	38	25	34	38	+

The sum for each column  
and row is given.

 = \_\_\_\_\_

 = \_\_\_\_\_

 = \_\_\_\_\_

 = \_\_\_\_\_

60 divided by 5 equals

What 4 coins add up to 61 cents?

$$5\frac{1}{3} + 4\frac{1}{3}$$

$$4 + 3 \times 8 - 8$$

B, \_\_\_\_\_, J, N, R, V, Z

How many minutes is it  
from 6:00 a.m. to 11:15 a.m.?

$$8 \times 7 = \underline{\hspace{2cm}}$$

$$1 \text{ cm} = 10 \text{ mm}$$

$$12 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$$



☐

I did page 10

☐I decided to skip this page  
edHelper

Name: \_\_\_\_\_

**Pay the bill!**

Nathan received a bill for his cellphone from Mobile Unlimited for \$54.65. Write the check as Nathan would write it.

NATHAN

1593

DATE \_\_\_\_\_

PAY TO THE  
ORDER OF \_\_\_\_\_

\$

DOLLARS

MEMO \_\_\_\_\_

⑆992214843⑆

⑈50227⑈

1593

**Pay the bill!**

Nathan received a bill from Central Water for \$154.15. Write the check as Nathan would write it.

NATHAN

1594

DATE \_\_\_\_\_

PAY TO THE  
ORDER OF \_\_\_\_\_

\$

DOLLARS

MEMO \_\_\_\_\_

⑆992214843⑆

⑈50227⑈

1594

What is the number that is 11 less than 5?

$$3 - 2 - 2 =$$

$$6 - 11 =$$

Write the missing family fact.

$$171 \div 9 = 19$$

$$9 \times 19 = 171$$

$$171 \div 19 = 9$$

How many meters are there in 126 kilometers?

Round 12,305 to the nearest thousand.

Name: \_\_\_\_\_

**Pay the bill!**

Rent is due. Amanda needs to pay her landlord \$2,500.  
Her landlord's name is April Martin.

AMANDA

1278

DATE \_\_\_\_\_

PAY TO THE ORDER OF \_\_\_\_\_

\$

\_\_\_\_\_ DOLLARS

MEMO \_\_\_\_\_

⑆995590088⑆

⑈65303⑈

1278

**Pay the bill!**

Amanda needs money. She wants to get \$120 in cash, so she writes a check payable to cash in this amount. Write this check.

AMANDA

1279

DATE \_\_\_\_\_

PAY TO THE ORDER OF \_\_\_\_\_

\$

\_\_\_\_\_ DOLLARS

MEMO \_\_\_\_\_

⑆995590088⑆

⑈65303⑈

1279

Round 96,557 to the nearest hundred.

$$9 \times 16 \div 2$$

108 divided by 12 equals

$$3\frac{2}{3} + 5\frac{1}{3}$$

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

How many centimeters in 8.6 meters?

Name: \_\_\_\_\_

In what quadrant would you find the point (11, -2)?

$$5 \times 49 \div 7 - 27 \div 9 =$$

$$6.8971 \times 10^3 =$$

The letter p is used to represent power points in a game, which can range from 632 to 1,578 points. Express this as an inequality.

Crazy Adam had pizza 21 days in the month of January. What percent of the month did he have pizza?

$$(7 + 13 + 4) =$$

Circle the percentage that is closest to 34 out of 53:

6%  
94%  
67%

$p - \$55 = \$25$   
What is the value of p?

If  $x = -5$  and  $s = 53$  then what is  $10x - 10s + 3s = ?$

Simplify.

$$\frac{81}{162} =$$

30, 40, \_\_\_\_\_, 60, 70,  
80, 90, 100

$$12 + 96 \div 12$$

$y = x + 12$   
 $y = 22$   
What is the value of x?

$t - 13 + 10 = 16$   
What is the value of t?

$$28 \div 7 + 7$$

Name: \_\_\_\_\_

$$0.8 \times 0.09$$

Rewrite  $\frac{53}{100}$  as a decimal.

$$0.13 \cdot 4 =$$

If  $a = 6$  and  $b = 61.2$ ,  
then  
 $2a + 61.2 - a =$

What is the greatest  
common factor of the  
numbers 60 and 96?

What is the remainder of  
34 divided by 4?

If  
1,000,000,000  
 $= 10^x$ , then what is the  
value of  $x$ ?

Convert  $82\frac{9}{10}$  to an  
improper fraction.

Rewrite as an algebraic  
expression or equation.

Ten subtracted from a  
number is thirty-nine.

$$0.3 (0.9 (0.3 \times 8)) =$$

$$16n - 23.1 = 40.9$$

$$n =$$

If  $n = 4$  and  $m = -19$  then  
what is  $11n - 13m - 2m =$  ?

☐

I did page 14

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edHelper**Name:** \_\_\_\_\_

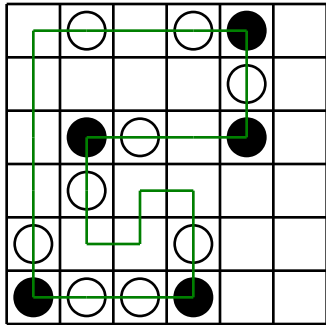
Samantha is planning to drive to Erin's house. She hasn't seen Erin since last summer. Her house is 138 miles away. The gas tank on Samantha's car can hold 16 gallons of gas. On average the car will go 25 miles on one gallon of gas.

Right now the gas tank is showing that it is one-third full (or two-thirds empty!).

Can Samantha make it to Erin's house without getting gas first? Do you think she should get gas?

Show your work.

**Name:** \_\_\_\_\_

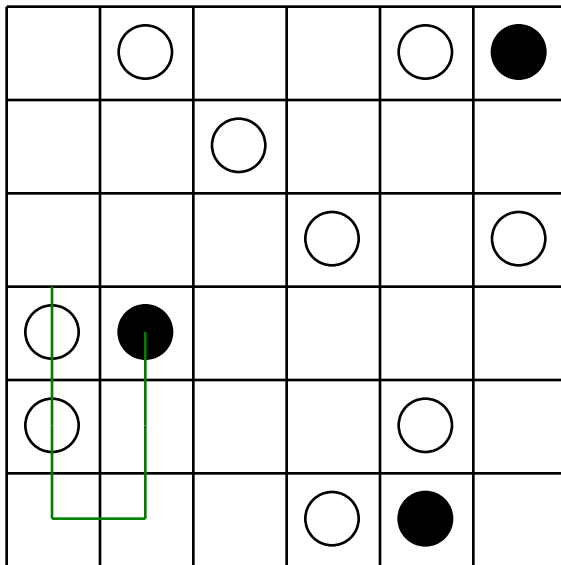


Can you draw ONE line going through ALL the circles? Your line can go left, right, up, or down. It cannot go diagonally. Your line cannot cross over any part of the line you have already drawn.

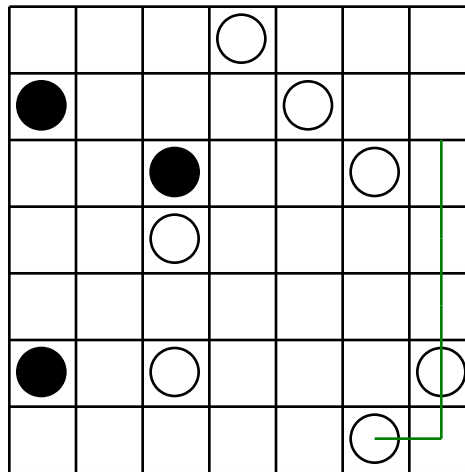
You MUST TURN in a BLACK circle. Do NOT TURN in a WHITE circle.

The puzzle on the left shows a correct line going through all the circles.

Finish the line:



Finish the line:



$$\begin{array}{r} 92 \\ - 27 \\ \hline \end{array}$$

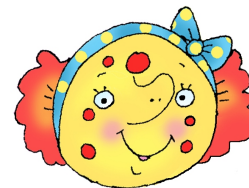
You have four digits to use in an addition problem: 6, 1, 1, and 5. Make up a problem where you have two 2-digit numbers. What is the largest sum you can make?

$$856 + 222 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 44 \\ + 47 \\ \hline \end{array}$$

$5 \times 9 = \underline{\hspace{2cm}}$

$8 \times 6 = \underline{\hspace{2cm}}$



Circle the smallest number:

49,731

6,058,258

1,304,296,712

34,057,689

Emma is younger than Anne. Megan is younger than Emma. Who's the youngest?



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

		\$20		
				25¢

**Nathan has \$37.11. He has 5 bills and 2 coins. How?**

Name: \_\_\_\_\_

Nathan's older brother is in the United States Navy and is assigned to a submarine. Nathan's brother once told him that the submarine was 4 nautical miles offshore. How many standard miles was it offshore? Round your answer to the nearest tenth. (One nautical mile = 6,080 feet. One mile = 5,280 feet.)

The Market on the Square had to buy 20 new carts. The price of each cart was \$136.95 plus \$10 per cart to put the name of the market on the cart. If the manager of Market on the Square decides to buy 14 new carts with the name of the market and the rest without, what will the cost be?

Rose rode her bike for 30 minutes. She went 5.3 miles. What is her speed in miles per hour?

In each group, use 4 of the numbers to make a proportion.

18      108      13      45      24      10

42      57      4      152      112      26

Name: \_\_\_\_\_

Draw a line from START to END.

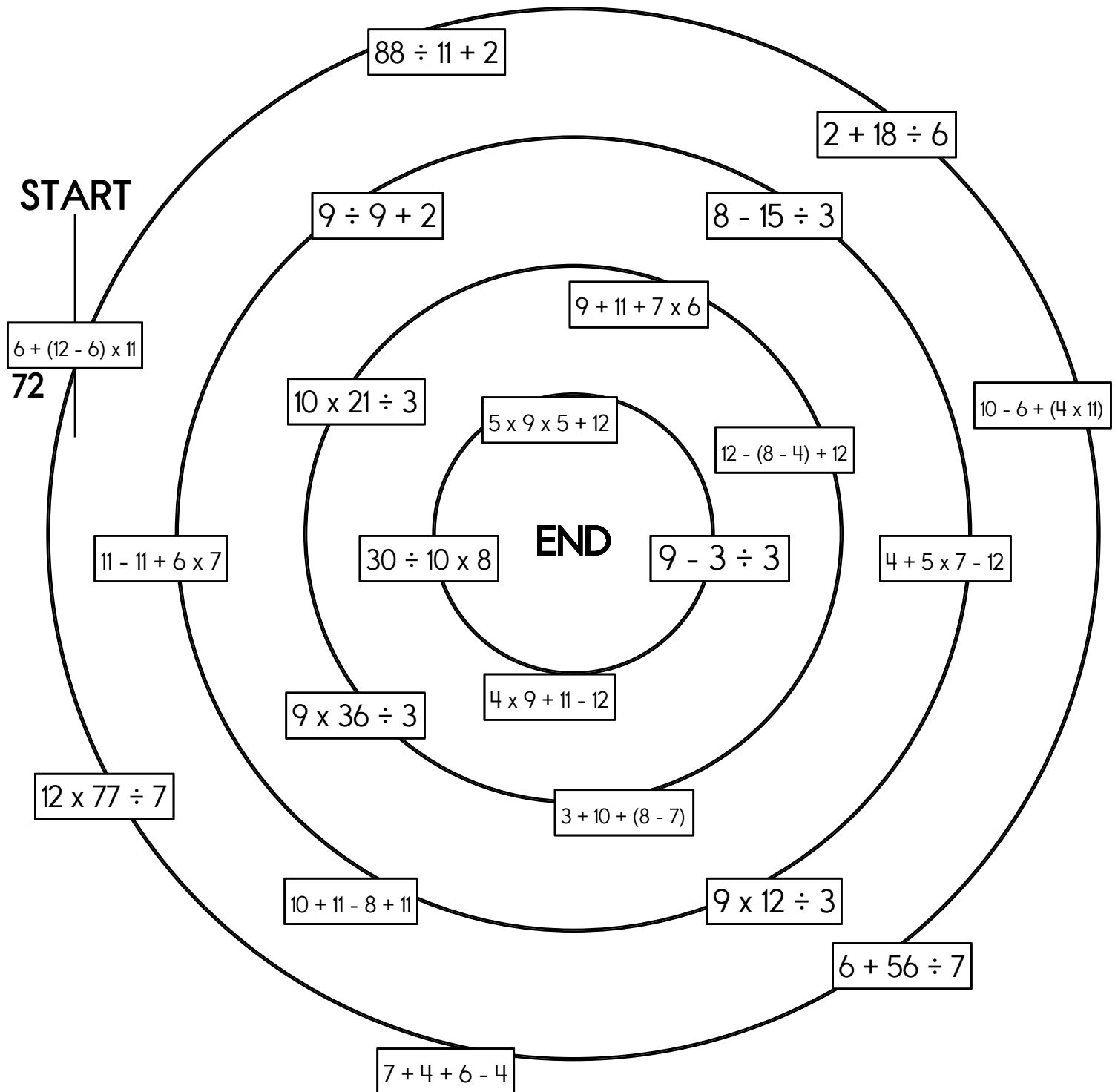
27

~~72~~

237

20

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



Name: \_\_\_\_\_

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

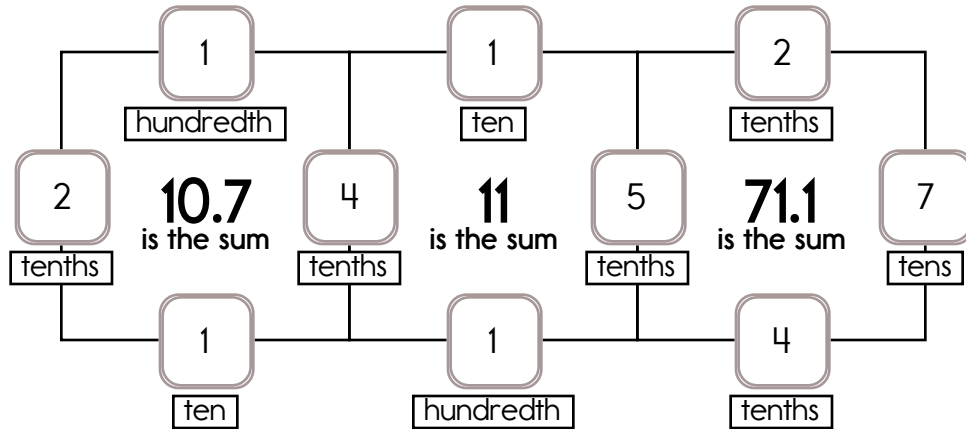
Example:

$$0.2 + 0.4 + 0.1 + 10 = 10.7$$

Example:

$$0.5 + 70 + 0.2 + 0.4 = 71.1$$

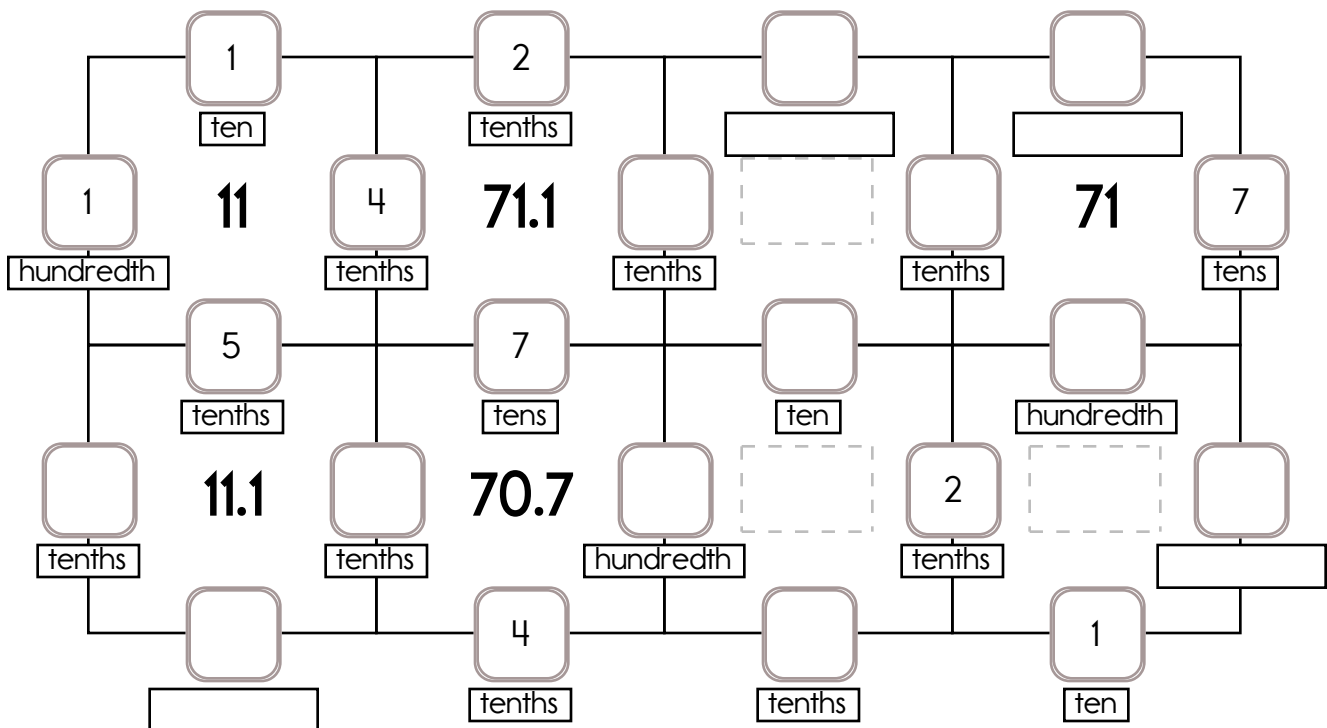
Sample:



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 tens, 1 ten, or 7 tens.

The other three numbers have to all be DIFFERENT and must be from these: 2 tenths, 1 hundredth, 5 tenths, or 4 tenths.



Name: \_\_\_\_\_



Write your own math problem here.

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

Name: \_\_\_\_\_

Draw a line from START to END.

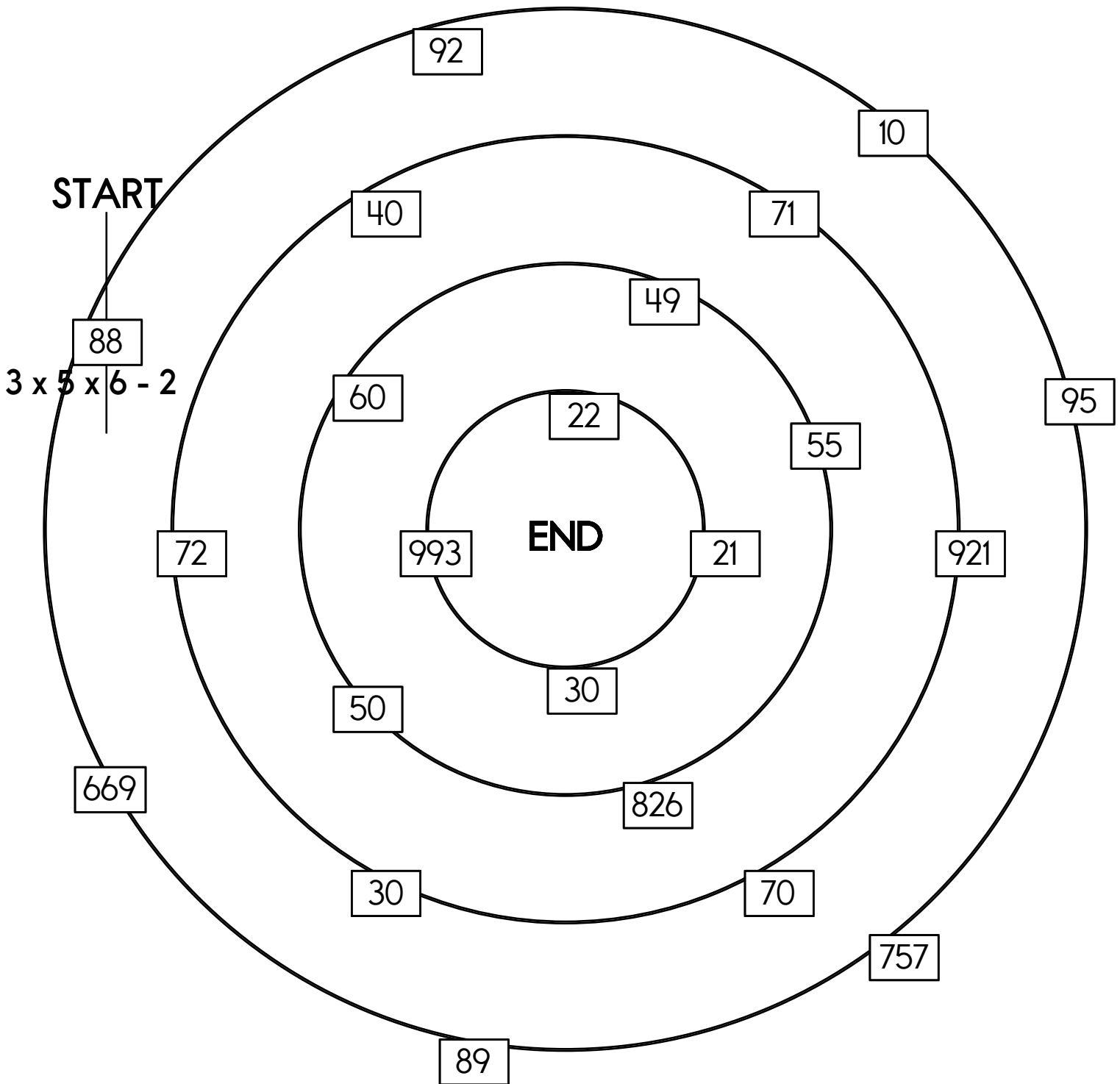
$$9 + 108 \div 9$$

$$7 \times 70 \div 7$$

~~$$3 \times 5 \times 6 - 2$$~~

$$(3 - 2) + 4 \times 12$$

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



Name: \_\_\_\_\_

Pick the correct answer using brain power. No writing.

 $0.3 \times 0.4$  is what? 12 or 0.12 or 0.012 $0.19 \times 0.2$  is what? 0.0038 or 0.000038 or 0.038 $0.08 \times 0.2$  is what? 0.016 or 0.16 or 1.6 $1.12 \times 0.11$  is what? 0.000123 or 12.32 or 0.1232

Write as a decimal.

$9\frac{1}{100}$

Write as a decimal.  
Six and five hundredths

Write as a decimal.

$\frac{8}{10}$

Circle the percentage that  
is closest to 37 out of 70:

88%

15%

36%

$y = x + 18$

$y = 26$

What is the value of x?

What is the value of h?

$2h + 13 - 6h = -3$

$3 \times 11 = \underline{\hspace{2cm}}$

$24 \div 8 = \underline{\hspace{2cm}}$

$100 \div 10 = \underline{\hspace{2cm}}$



Name: \_\_\_\_\_

<p>Two-thirds of the students in the fourth grade at Geneva Elementary don't know the fable "Androcles and the Lion." If 104 students in the fourth grade don't know about "Androcles and the Lion", how many students are in the fourth grade at Geneva Elementary?</p>	<p>Yesterday it rained for <math>3\frac{1}{3}</math> hours at Hannah's house. She got to use her new pink umbrella. At Megan's house it only rained for 2.5 hours. How much longer did it rain at Hannah's house?</p>	<p>Some fifth graders took a survey asking students whether they felt a lot of stress, a little stress, or no stress. The survey showed that <math>\frac{2}{5}</math> felt a lot of stress, <math>\frac{1}{2}</math> felt a little stress, and <math>\frac{1}{10}</math> felt no stress. There were 6 students that felt no stress. How many students took the survey?</p>
<p>Adam is buying bags of pretzel sticks and twisted pretzels. There are 24 pretzel sticks per bag and 20 twisted pretzels per bag. What is the least number of bags of pretzels he can buy to have the same number of each type of pretzel?</p>	<p>Mr. Martin bought a bottle of 100 licorice capsules. Each capsule weighed 400 mg. How many ounces of licorice capsules did she buy? Round your answer to the nearest hundredth of an ounce. (Hint: 1 gram = 0.0352 ounce)</p>	<p>Sara looked at the prices of the fancy pens and quickly estimated (to the nearest dollar) the cost of a typical fancy pen. The prices were \$2.15, \$2.48, and \$6.22. What is the cost of a typical fancy pen, and how did she do it?</p>



Name: \_\_\_\_\_

Find 2 equations hidden in each box. Good luck!

$7 \times 9$

$8 + 4$

$8 + 5$

$6$

$6 \times 6$   
 $30$

$32$

$7 \times 7$

$3 + 4$

$1$

$36$

$13$

$2 \times 9$

$14$

$24$

Write 2 equations: \_\_\_\_\_

$5$   $11$

$7 \times 4$

$32$

$21$

$30$

$4 \times 9$

$12$

$28$

$9 \times 3$

$7 \times 6$

$13$

$4 \times 8$

$4 + 3$

$12$

$1 \times 1$

Write 2 equations: \_\_\_\_\_

$6$

$9 + 3$

$14$

$6 \times 7$

$15$

$42$

$7 \times 8$

$2 + 9$

$7 \times 2$

$4 \times 4$

$54$

$25$

Write 2 equations: \_\_\_\_\_

Name: \_\_\_\_\_

Find 2 equations hidden in each box. Good luck!

$4 \times 8$

$6 \times 7$

$5 \times 1$

$3 \times 1$

$4 \times 6$   
5

$3 \times 3$

$28$

$7 \times 7$

$3 + 9$

$15$

$16$

$11$

$2$

$45$

$49$

Write 2 equations: \_\_\_\_\_

$5 \times 5$

$49$

$8 \times 5$

$81$

$1 \times 9$

$0$

$3 + 9$

$28$

$12$

$7 \times 9$

$7 \times 5$

$35$

$1 \times 1$

$6$

Write 2 equations: \_\_\_\_\_

$2 + 9$

$9 \times 3$

$63$

$15$

$2$

$7 \times 6$

$48$

$8 + 9$

$0 + 2$

$45$   
17

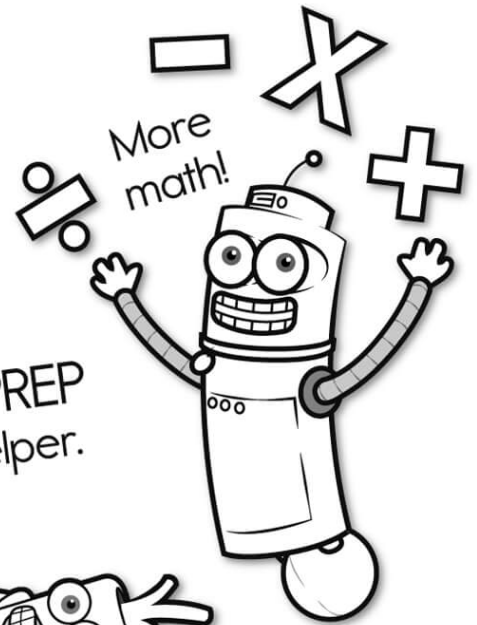
$64$

$4$

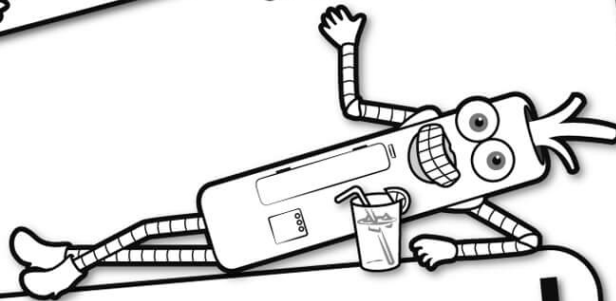
$9 \times 4$

$1 \times 1$

Write 2 equations: \_\_\_\_\_



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