| 13 | $+2\frac{2}{3}$ | | +13 | +60 | +24 | | $-\frac{3}{8}$ |

Name: _____

Challenge Math
Book 1

Left column (top to bottom): $99\frac{19}{24}$, $+3\frac{4}{8}$, $-\frac{5}{8}$, $+8$, $+46$, $-\frac{4}{8}$, $+22$

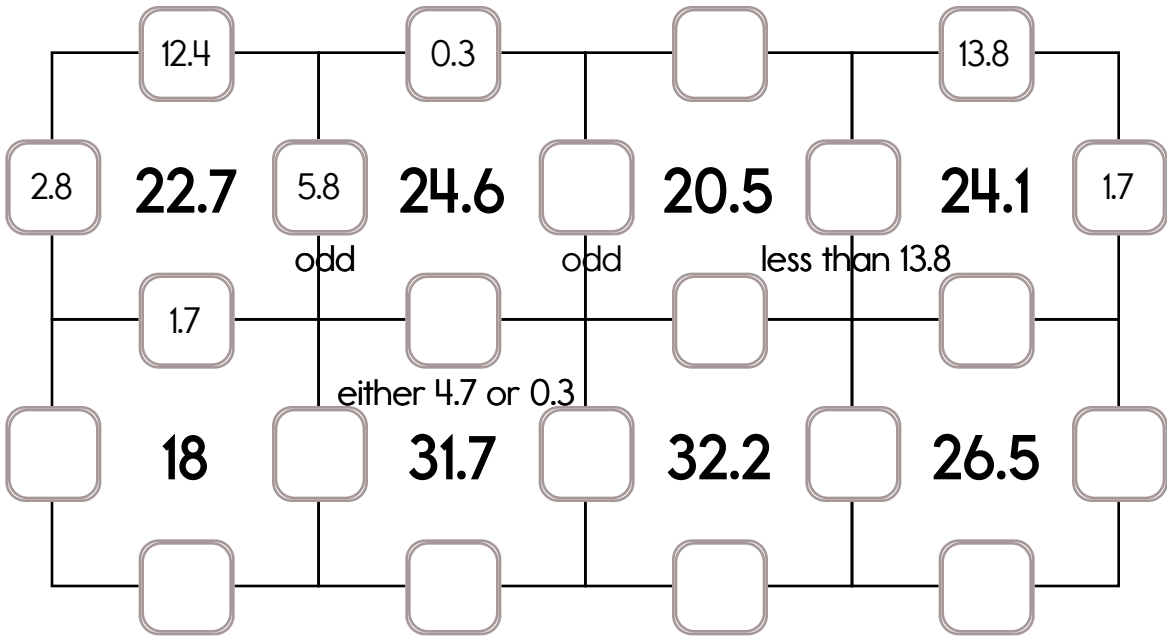Right column (top to bottom): $+\frac{5}{8}$, -7, $+5\frac{1}{3}$, -18, -4, $+\frac{2}{3}$, $89\frac{11}{12}$, $+\frac{4}{8}$

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: 13.8, 12.4, or 20.9.

The other three numbers have to all be DIFFERENT and must be from these: 3.6, 7.4, 4.7, 5.8, 2.8, 1.7, or 0.3.

Puzzle grid:

Row of top squares: 12.4, 0.3, [blank], 13.8

Center values row: 2.8 — **22.7** — 5.8 — **24.6** — [blank] — **20.5** — [blank] — **24.1** — 1.7

Labels under: odd, odd, less than 13.8

Next row: 1.7, [blank], [blank], [blank]

Label: either 4.7 or 0.3

Center values row: [blank] — **18** — [blank] — **31.7** — [blank] — **32.2** — [blank] — **26.5** — [blank]

Bottom squares: [blank], [blank], [blank], [blank]

Bottom row: $+\frac{1}{3}$, -27, $-\frac{2}{3}$, -48, $+6\frac{1}{3}$

Welcome Back to School

Name: _____

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

Circle the numbers once you find it!

A
(78) 17 77
− 13 33 80
(12) 87 (66)
28 51 37

Find a subtraction fact.

B
(12) 30 76
− 68 80 41
84 10 15
32 89 37

Find a subtraction fact.

C
(44) 20 24
− 9 69 55
12 90 98
96 61 88

Find a subtraction fact.

Equations:

Write the equation facts you found.

A	78	-	12	=	66
B		-		=	12
C	44	-		=	

Rewrite these in increasing order of length:

559 dm, 9 cm, 138 km, 492 mm, 94 m

1 km = 1,000 m

23 km = _____ m

70 ÷ 10 =

139 + 522 = _____

29 cm = _____ mm

9 2
- 4 1

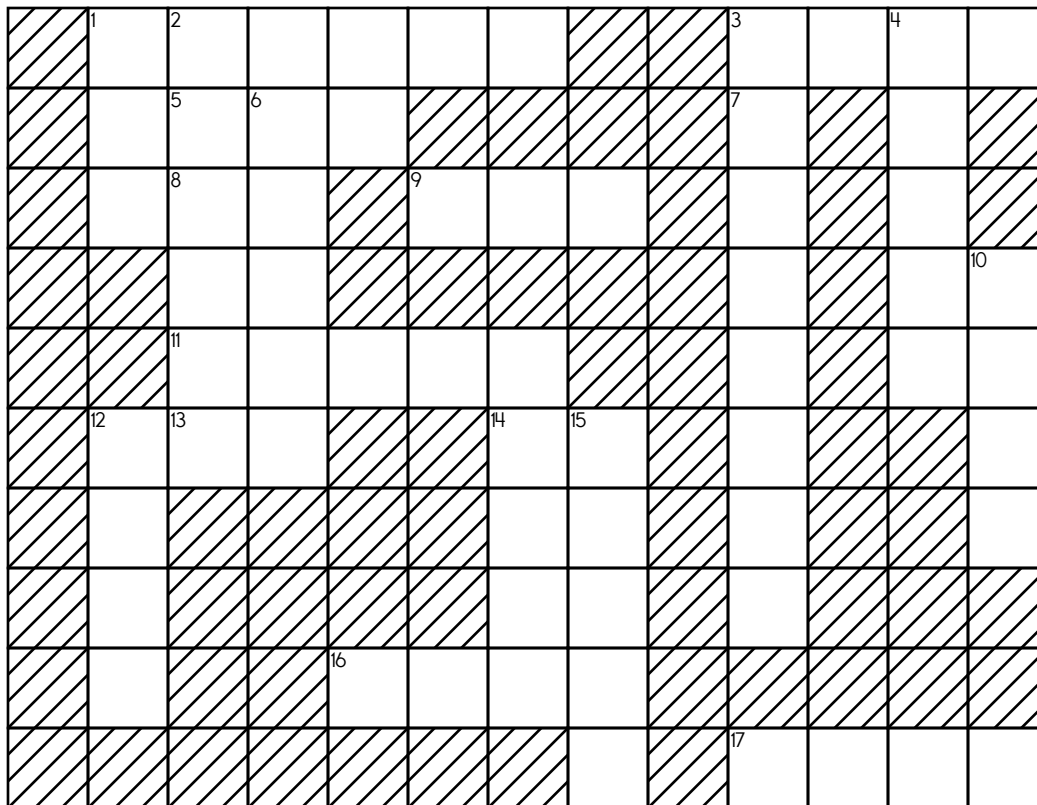**Name:** _____

ACROSS

2. the thousands in 10-Down + the ten thousands in 6-Down + the hundreds in 16-Across + the ones in 8-Down

3. the ones in 15-Down + the hundreds in 1-Down + the tens in 8-Down + the thousands in 16-Across

5. the tens in 8-Down + the hundreds in 10-Down + the ones in 6-Down

9. the hundreds in 2-Across + the tens in 4-Down + the ones in 1-Down

11. the tens in 13-Across + the hundreds in 10-Down + the ones in 8-Down + the ten thousands in 4-Down

13. 4 + 18

16. the ones in 13-Across + the hundreds in 10-Down + the thousands in 14-Down

17. the thousands in 2-Across + the tens in 4-Down + the ones in 16-Across

DOWN

1. the tens in 4-Down + the ones in 15-Down + the hundreds in 10-Down

4. **fifty-three thousand two hundred forty-six**

6. the thousands in 14-Down + the ten thousands in 4-Down + the ones in 13-Across

7. seven million eight hundred sixty-three thousand six hundred seventy-five

8. the ones in 13-Across + the tens in 14-Down + the thousands in 4-Down

10. the thousands in 8-Down + the ones in 4-Down + the tens in 13-Across + the hundreds in 14-Down

12. the hundreds in 2-Across + the tens in 15-Down + the ones in 5-Across + the thousands in 8-Down

14. six thousand six hundred fifty

15. the tens in 13-Across + the ones in 8-Down + the ten thousands in 2-Across + the thousands in 6-Down
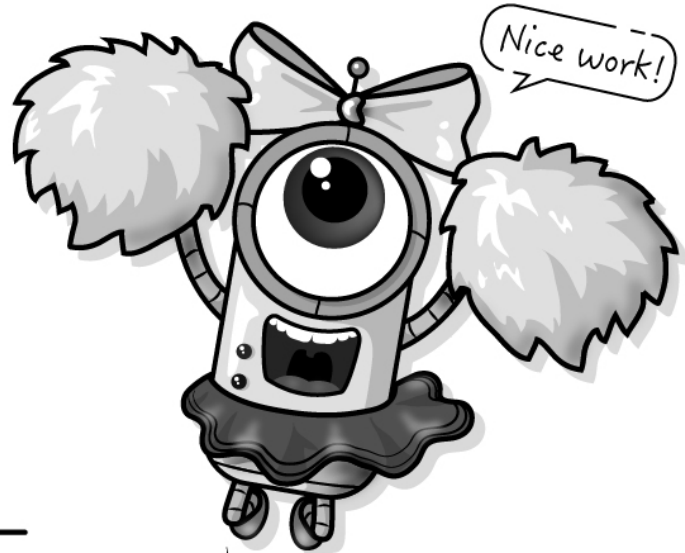
Name: _____

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

_____

$10 - \dfrac{1}{2} + \dfrac{1}{9} =$

Reduce $\dfrac{54}{162}$ to its lowest terms.

$16 + \dfrac{2}{3} + \dfrac{4}{11} =$

$9 \div \dfrac{1}{6}$

Write $\dfrac{3}{9}$ in lowest terms.

Estimate quickly the difference.
$5{,}730 - 2{,}320$

How many pounds are in 128 ounces?

_____ pounds

Welcome Back to School

Name: _____

Two integers don't get along.

"We have a lot of differences, Negative," said Positive.

"We aren't that much different," said Negative.

"Maybe," said Positive. "Actually, you might have a point. We would be twins with the same value if you took the absolute value of me."

"Absolutely!" replied Negative.

"Yeah," said Positive. "Too bad we are still 18 units apart without cheating and using absolutes."

Zero was hiding behind the bush listening to Negative and Positive talk. "I wonder what these two numbers are," he said to himself. "Maybe it could be 6 and -2. Nah, that's 8 units apart, and how could the absolute value of -2 make it a twin of 6 when |-2| = 2? This is soooooooooooo confusing."

Help Zero figure this out. And by the way, GOOD LUCK! Just for starters, the absolute value of a negative number is positive. Hope that helps.

Show your work.

This is not as confusing as it sounds! Did you know |5| means the absolute value of 5? The answer is 5 because it is 5 units from zero. Absolute value measures the number of units from zero.

Welcome Back to School

Name: _____

Play a game online!
edHelper.com/math-games.htm

Nice work!

I PLAYED ONE GAME

☐ (Check the box after you play.)

MY SCORE

_____

---

1 + 8 x 3 - 8

How much money is 1 quarter, 1 dime, 1 nickel, and 6 pennies?

---

99 divided by 9 equals

What is the area of a rectangle with sides 3 cm and 6 cm?

What is 50% of 1,006?

It was 7 degrees below zero in the morning. By afternoon the temperature rose 27 degrees. How warm was it?

Name: _____

Find 2 equations hidden in each box. Good luck!

4

7 - 2

8

5

8 - 6

6

2

7

Write 2 equations: _____   _____

701

859 + 90

20 + 848

520 + 20

949

227

411

541 + 77

89 + 612

74 + 614

650

99 + 107

895

Write 2 equations: _____   _____

8 x 7

5 x 7

1 x 0

8 x 8

20

4 x 6

64

16

14

2

6

54

45

1 x 5

5 x 9

Write 2 equations: _____   _____

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 2 in your head	imagine 3 in your head	imagine 4 in your head	imagine 3 in your head
multiply 2	add 5	add 9	add 8
multiply 9	subtract 5	subtract 9	multiply 3
	multiply 7	multiply 7	add 3
	subtract 9	add 3	double it
	multiply 3		add 1
	Add the tens digit to the ones digit. Write the sum.		Add the tens digit to the ones digit. Write the sum.
Write the tens digit.		Write the tens digit.	
____	____	____	____ ____
A	B	C	D E

What is the sum?

A + B + C + D + E

____ ____

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

____ ____ ____ ____ **e** **e** ____

---

6 before 17 _____   7 after 16 _____   3 after 11 _____

4 before 14 _____   6 after 14 _____   4 after 15 _____

9 before 16 _____   1 after 18 _____   5 after 13 _____

Welcome Back to School

Name: _____

Mrs. Miller is the best gym teacher. "Today, we are going to play 1 on 1 basketball. Each game will be 3 minutes long, and you have to play everyone else in the class," Mrs. Miller said.
The gym has 6 basketball courts, and there are 12 kids in this class.
Everyone has to play everyone else. A game lasts 3 minutes, and there are about 30 seconds between each game. How long will it take to do this?
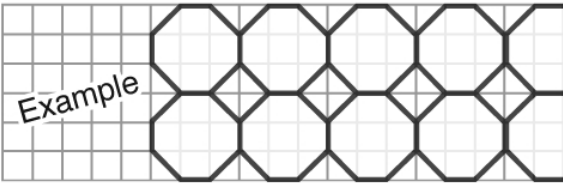
Show your work.

Name: _____

Hey, look! We're **tessellations!**

It's a **tessellation**!

Use each shape to create a pattern that fills the entire box. The shapes cannot overlap and there can be no spaces.
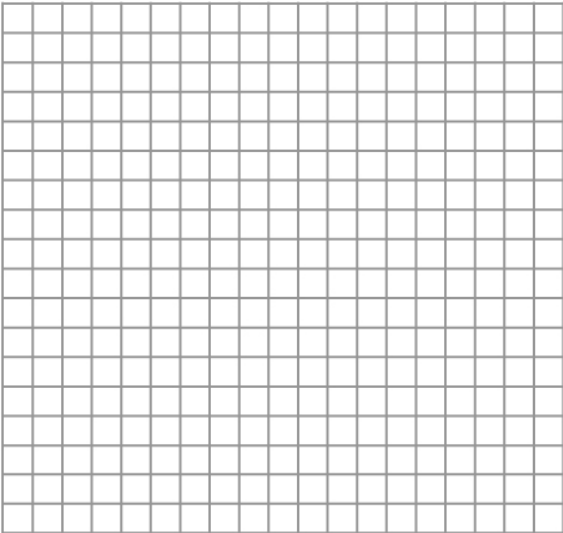
Example

Shade the shapes that will **tessellate**; repeat to form a pattern without leaving any gaps or overlapping.
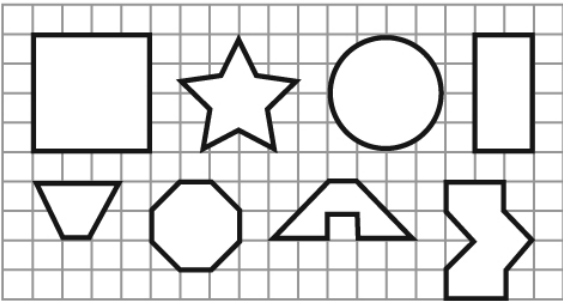
Create a tessellation using two shapes:
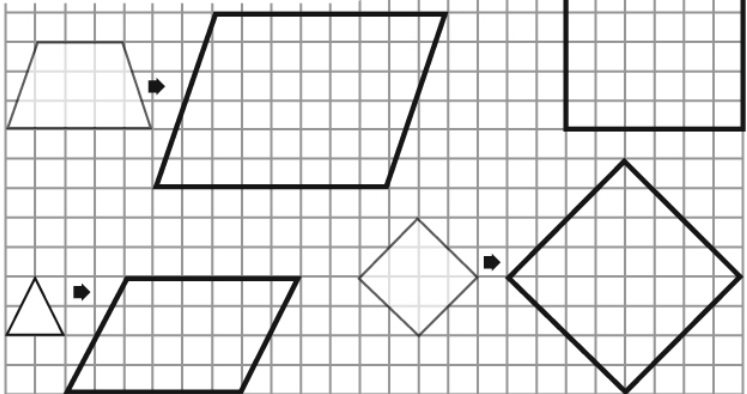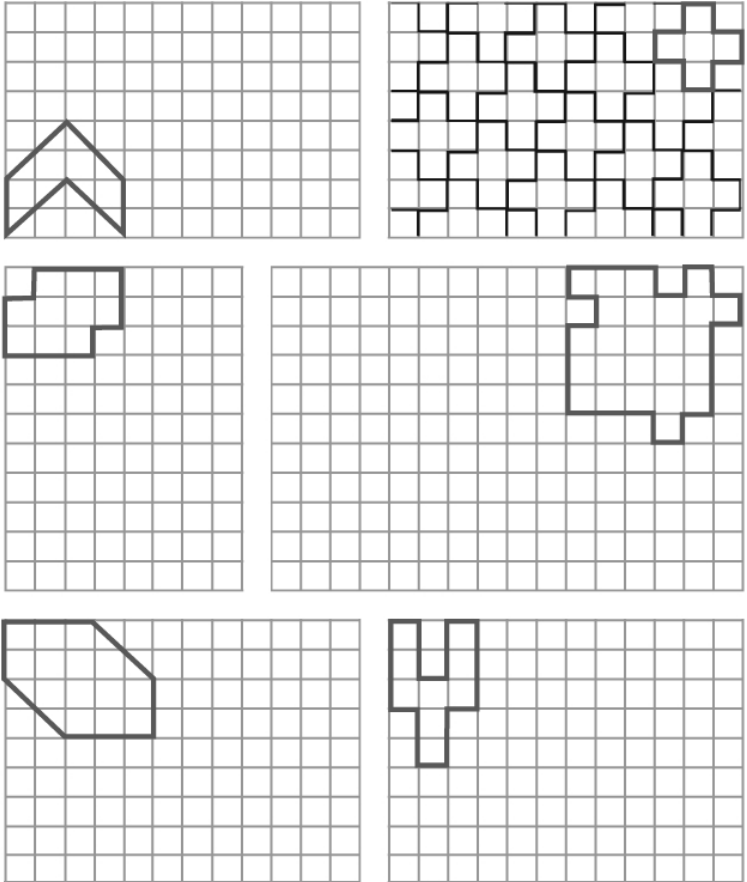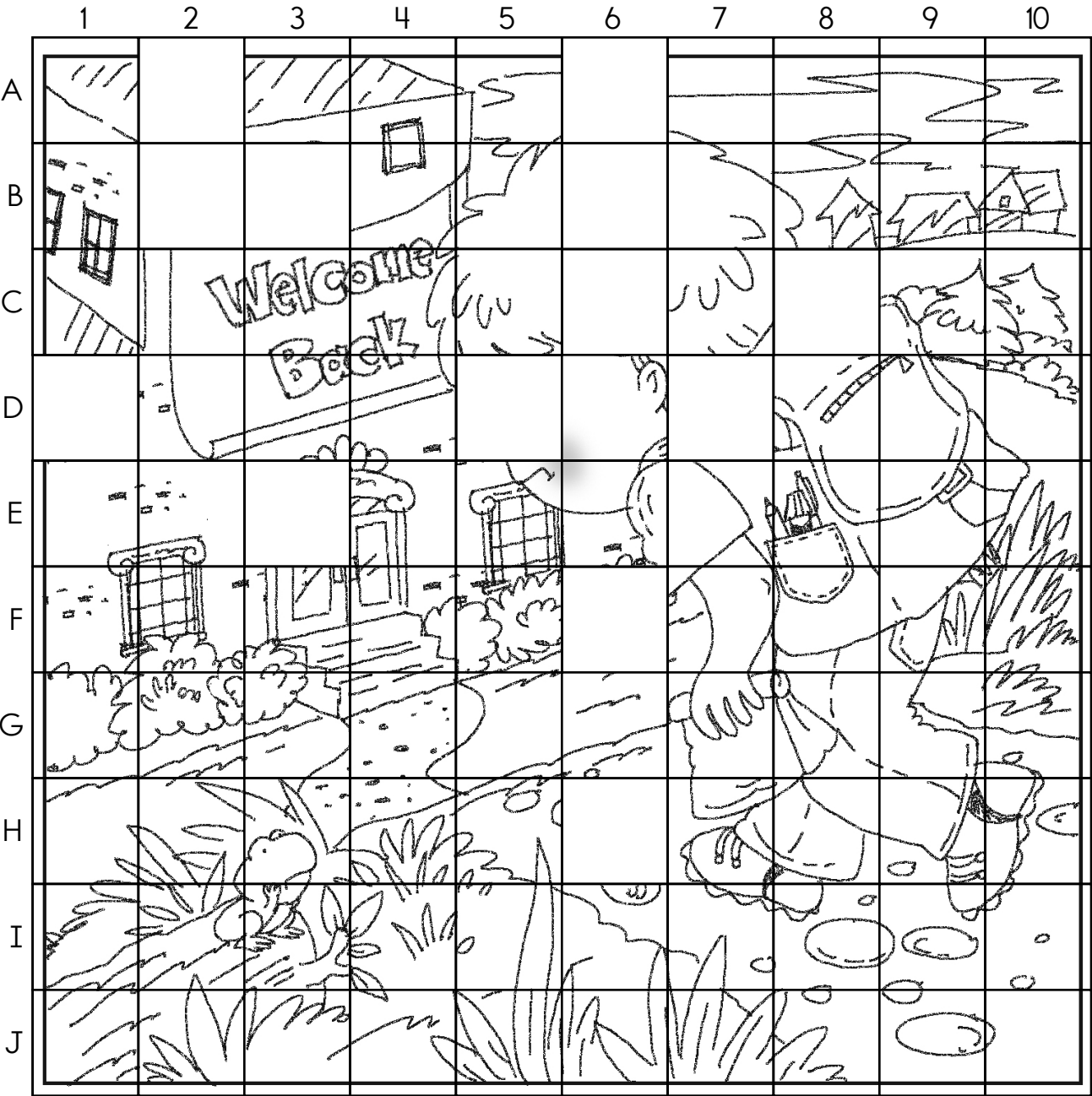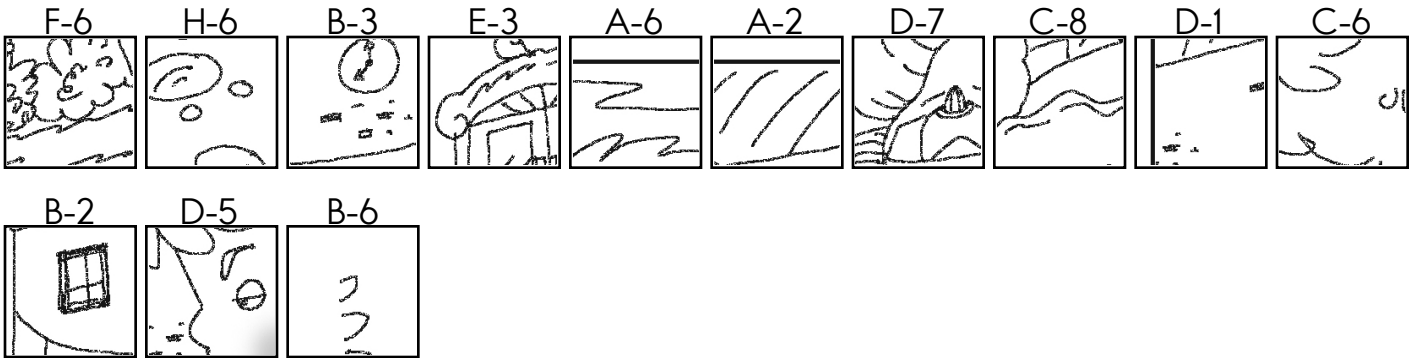
Example

Create and **Color**

Tessellate each shape to fill the area.   Example:

Name: _____

Oh, no. This picture is all mixed up. Try to redraw the picture using the letter and number as a guide.

F-6	H-6	B-3	E-3	A-6	A-2	D-7	C-8	D-1	C-6

B-2	D-5	B-6

	1	2	3	4	5	6	7	8	9	10
A										
B										
C										
D										
E										
F										
G										
H										
I										
J										

Name: _____

Directions:
Use the rule that
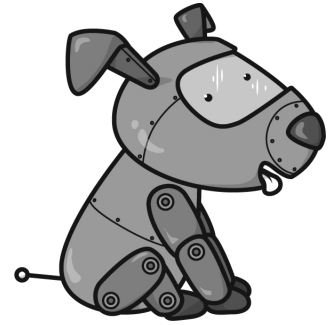1 human year = 7 dog years
to fill in the blanks.
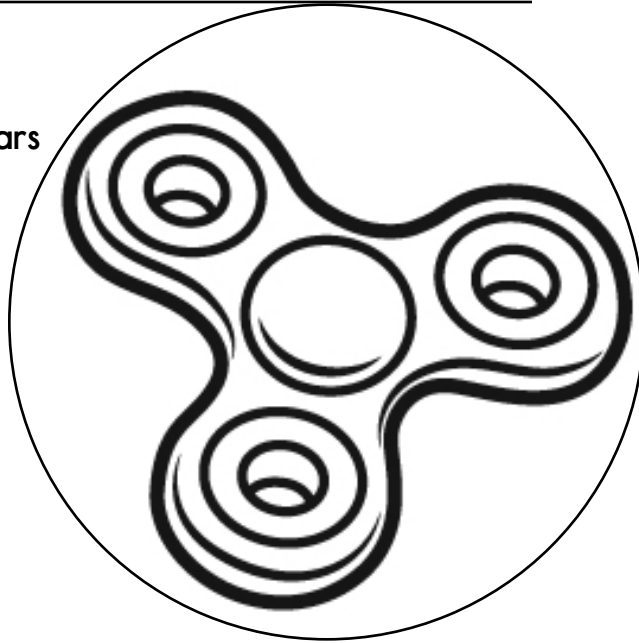
How many times
do you need to spin?

I needed to spin _____
time(s) to finish the page.

Spin fidget spinner. Quick!

I needed to spin _____ time(s) to finish.

Dog's Age: _63.7_ Human Years: _9.1_	Dog's Age: _36.4_ Human Years: ____	Dog's Age: _72.1_ Human Years: ____	Dog's Age: _84_ Human Years: ____
Dog's Age: ____ Human Years: _11_	Dog's Age: ____ Human Years: _3.6_	Dog's Age: _16.8_ Human Years: ____	Dog's Age: _49_ Human Years: ____
Dog's Age: ____ Human Years: _1_	Dog's Age: _68.6_ Human Years: ____	Dog's Age: ____ Human Years: _5_	Dog's Age: _90.3_ Human Years: ____
Dog's Age: _24.5_ Human Years: ____	Dog's Age: ____ Human Years: _8.7_	Dog's Age: ____ Human Years: _1_	Dog's Age: _28_ Human Years: ____
Dog's Age: _55.3_ Human Years: ____	Dog's Age: _18.9_ Human Years: ____	Dog's Age: _70_ Human Years: ____	Dog's Age: ____ Human Years: _8.2_

Welcome Back to School

Name: _____

Which of the following fractions when added to $\frac{6}{9}$ is $1\frac{7}{15}$?

$$\frac{1}{4}$$

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

$$\frac{3}{6}$$

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

$$\frac{1}{3}$$

Hunter 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 16, which will make 16 cookies. The problem is that he needs to make 135 cookies for his party, and his oven can only fit one cookie sheet at a time. How many times will he have to put a cookie sheet into the oven to make enough cookies?

Welcome Back to School

Name: _____

Dr. Programmer loves to type on his computer. But his darn monitor is sometimes broken. Fill in what the computer should print.
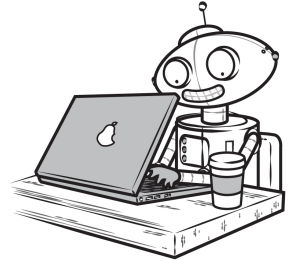
Dr. Programmer typed:

A = 8412	
B = 100	
C = A + B	
print ("The number that is ",	
B," more than ",A," is ",C)	

The computer replied:

The number that is 100 more than 8412 is 8512

A = 8410	
B = 10	
C = A + B	
print ("The number that is ",	
B," more than ",A," is ",C)	

The number that is 10 more than 8410 is 8420

A = 7770	
B = 100	
C = A + B	
print ("The number that is ",	
B," more than ",A," is ",C)	

___ _____ ____ __ ___ ____ ____ ____ __ ____

A = 5270	
B = 10	
C = A + B	
print ("The number that is ",	
B," more than ",A," is ",C)	

___ _____ ____ __ __ ____ ____ ____ __ ____

Welcome Back to School

Name: _____

A = 30544
B = 1000
C = A + B
print   ("The number that is ",
        B," more than ",A," is ",C)

——— —————— ———— ——

———— ———— ———— —————

—— —————

A = 86155
B = 10000
C = A + B
print   ("The number that is ",
        B," more than ",A," is ",C)

——— —————— ———— ——

———— ———— ————

————— —— —————

A = 5818
B = 100
C = A + B
print (B," more than ",A," is ",C)

——— ———— ———— ————

—— ————

A = 4207
B = 10
C = A + B
print (B," more than ",A," is ",C)

—— ———— ———— ———— ——

————

A = 27706
B = 1000
C = A + B
print (B," more than ",A," is ",C)

———— ———— ———— —————

—— —————

5, _____, 9, 11, 13, 15,

17, 19, 21, 23

(1 + 7) + 11

72 ÷ 9 =

Name: _____

| $79\frac{5}{6}$ | -60 | | | $+3\frac{1}{6}$ | | $-\frac{4}{5}$ | | +54 |

$+\frac{5}{6}$

-25

-45

$+\frac{1}{10}$ +27

$-\frac{9}{10}$

$+\frac{4}{5}$

$28\frac{1}{3}$

+11

-6

$-\frac{3}{6}$

$-7\frac{1}{5}$

$+4\frac{1}{6}$

-1   +16

-8   -14 $+\frac{6}{10}$ $+9\frac{7}{10}$ $-\frac{2}{5}$ $38\frac{2}{5}$

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

one hundred fifty-two thousand one hundred two

_____

18 ÷ 6 = _____   3 x 5 = _____

Name: _____

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

---

36 ÷ 12 + 12

Write the missing family fact.

120 ÷ 8 = 15

15 x 8 = 120

8 x 15 = 120

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

8, 2, Z, _____, 8, 2, Z, b, 8, 2, Z, b, 8, 2, Z, b

40, _____, 45, 49, 54, 60, 67, 75, 84, 94, 105

It was 2 degrees above zero in the morning. By afternoon the temperature rose 23 degrees. How warm was it?

What 6 coins add up to 71 cents?
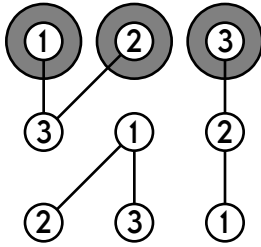

How many minutes is it from 8:00 a.m. to 10:15 a.m.?

F, H, J, L, N, _____, R, T, V, X, Z

(6,718,464) , (1,119,744) , (186,624) , _____, (5,184) , (864) , (144) , (24)
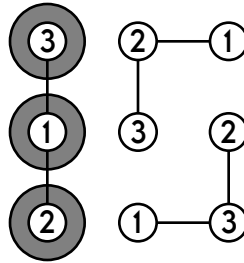

How many centimeters in 5.8 meters?
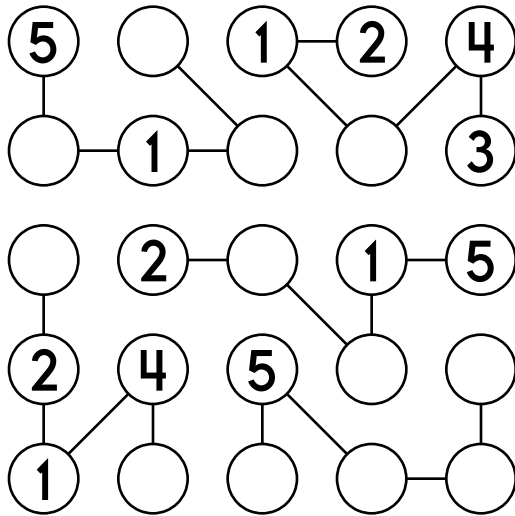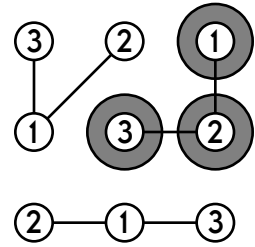

What is 50% of 910?

Name: _____

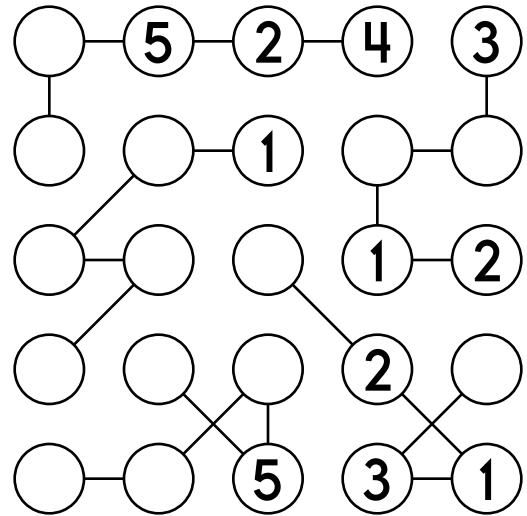Each column must contain
different numbers.
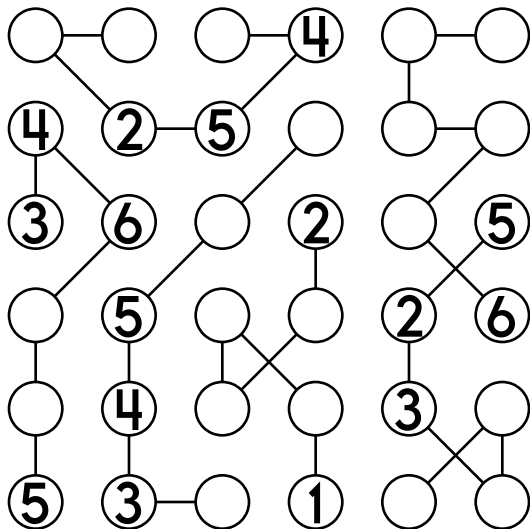
Each row must contain
different numbers.

Each connected group must
contain different numbers.

Use the numbers 1 through 5.

Use the numbers 1 through 5.

Use the numbers 1 through 6.
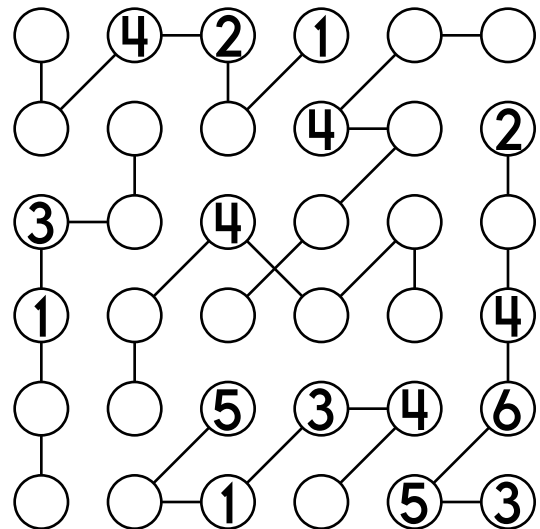
Use the numbers 1 through 6.

Name: _____

Sudoku Sums of 8

Each row, column, and box must have the numbers 1 through 9.
Hint: Look for sudoku sums. The sum of the two boxes inside of the dashed lines is 8.

Here is an example of a sudoku sum of 8: | 4 | 4 |

				9			6	
	9		1		8		3	
1	8		6				5	9
	6				1			
	7	8				1	4	
		4	5		2			6
	3				6	5	1	
	4		3	8	5			

Circle the smallest number:
6,039,284,517
74,903,462
5,681,023
1,857

```
  3 0 8
+ 4 6 9
```

```
  7 2 2
- 5 3 0
```

6 x 10 = _____

word root **ad** can mean **toward or to**   **admission, admit**

edHelper.com   Welcome Back to School

Name: _____

Complete each pattern. Write what the rule is.

$\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{4}$, $2\frac{1}{2}$, $2\frac{3}{4}$,

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

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

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

Complete each pattern. Write what the rule is.

156	143	130
117	104	
78		52
39	26	

Name: _____

April loves talk about the weather. She talks to Alexa (the robot!) about it, her little brother, her big brother, and anyone else she knows. But she tries to avoid talking about it to her science teacher, Mrs. Clark. You know why she tries to avoid talking about the weather with Mrs. Clark? "Well, let me give you an example," interrupts April. "One day I was in class talking to Ava, when Mrs. Clark started talking."

"Class, settle down. Today I have a riddle for you," said Mrs. Clark. "Actually, it is not so much a riddle but more a case of the bad math. Here is how it goes. It was the start of September when one of my students asked how my summer went. I told her that each day if it rained, I rated the day a 0. If it was sunny, I rated the day a 7. And if it was cloudy, I rated the day a 4. I did this for 60 days during the summer. She asked me what the mean, median, mode, and range was for my list of 60 numbers. I told her that I would only tell her ONE number. What number should she pick, and why? Don't forget the why. Any answer might be correct if you have a good why!"

Show your work.

Welcome Back to School

Name: _____

CHALLENGE YOUR CLASSMATES!
(OR SIBLING OR PARENT)

Play against someone!

Go to:
edhelper.com/math-games.htm

Pick your grade. Then play to challenge someone else.

Date played:

Whom I challenged:

Who won?

YOU WIN!

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

	Find the product of 566 and 4.	
1 2 3 x 3 7		4,2 9 0 x 9

Name: _____

Jen is really into science. She invented a robotic bug that burps. Her brother loves it, so she wanted to burp her brother today. She checked her phone, and her brother is currently 2.5 miles away. After she set the coordinates on the phone the robotic bug left. She got a burp confirmation 170 seconds later when it reached her brother. How fast did this burping bee travel in miles per hour?

At the mud factory, Purple's job is to scoop up mud and make it into kilogram blocks of mud. She loves her job! Today there were 44,502 milligrams of mud trucked in. Each mud block is precisely 1 kilogram, no less, no more. How many mud blocks can she make today?

Welcome Back to School

Name: _____

Maria is playing Erin a game of sock basketball. Erin is currently leading 19 to 12. They play for a few more minutes till the final score of 21 to 22 is reached. Can you tell who won?

Sarah is playing Anna a game of sock basketball. Anna is currently leading 18 to 11. They play for a few more minutes till the final score of 12 to 22 is reached. Can you tell who won?

□

□

Pam 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 161 different colored crayons. How many different colored small squares will she be able to fit in this rectangle?

If you know that $57 \div 100 = 0.57$, how could you solve these using mental math?

a. $57 \div 1000$

b. $0.57 \div 1000$

c. $0.57 \div 1000 \times 100{,}000$

Show how you would use pennies, nickels, dimes, or quarters to make the amount shown. Try to use the fewest number of coins.

a. $0.22

b. $0.33

c. $2.66

Name: _____

$4\overline{)48}$ $36\overline{)738}$ $30\overline{)180}$ $20\overline{)1200}$

$32\overline{)165}$ $10\overline{)126}$ $8\overline{)712}$ $72\overline{)360}$

$28\overline{)168}$ $10\overline{)360}$ $48\overline{)96}$ $22\overline{)176}$

$\frac{1}{32},\ \frac{1}{16},\ \underline{\quad\quad},\ \frac{1}{4},\ \frac{1}{2},$

(1) , (2) , (4) , (8)

The radius of a circle is 278 cm. What is the diameter of this circle?

$12 + 18 \div 9$

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

$34 + n = 50$

How many minutes is it from 9:00 a.m. to 11:30 a.m.?

Circle the digit in the tenths place.

171.74

Name: _____

Erin's great grandmother walked all the way across Germany before she came to the United States. She and her family carried all they owned in little sacks on their backs. They walked an average of 3.35 miles per day. How far did they walk in a year?	Megan bought 4 pieces of framing to make a frame for a picture of her great grandmother taken at Ellis Island. The wood cost a total of $11.70. If two of the pieces together cost $4.42, and each of the other 2 pieces had the same cost, how much was each remaining piece?	Erin bought purple, green, and gold streamers to put all the way around the librarian's desk on Mardi Gras Day. The desk is in the shape of a triangle with sides of 4m, 3m, and 6m. The streamers cost $0.39 per meter. What will it cost to buy enough to wrap around the desk 5 times?
According to a survey, 82% of adults in the United States pray at least once a week. Out of a group of 20,000 adults, approximately how many pray at least once a week?	Three boys put all their pennies together to buy popcorn. Justin gave $\frac{1}{4}$ of the pennies. Jacob gave $\frac{1}{8}$ of the pennies. They had 456 pennies in all. How many pennies did Peter give?	Alex found the sum of the first five even numbers and got a result of 20. What mistake must he have made?

Welcome Back to School

Name: _____

Hannah and Maria each want to buy $140 rugs for their rooms. Who will be able to buy it first?

Hannah has $27 saved. She earns $12 each week and plans to save it all for the rug.

Maria has $35 saved. She earns $8 each week and plans to save it all for the rug.

Which amount of time is longer?

6 hours or 460 minutes?

310 minutes or 5 hours?

450 seconds or 8 minutes?

1 hour = _____ minutes

1 minute = _____ seconds

The grocery store sells 3 cases of Amy's Water for $27. They also offer 5 cases of Cool Water for $47.50. If you like both brands equally, then which brand of water is the better deal?

Who is the youngest?

Jack will be 30 years old in 2033.

Sarah turned 13 years old in 2018.

Gavin will be 17 years old in 2023.

Name: _____

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

Example:

28.6 + 0.7 + 4.7 + 1.9 = 35.9

Example:

4.7 + 0.7 + 25.1 + 2.8 = 33.3

Sample:

	4.7		3.5		25.1	
28.6	**35.9** is the sum	0.7	**37.5** is the sum	4.7	**33.3** is the sum	0.7
	1.9		28.6		2.8	

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: 28.6, 27.7, or 25.1. The other three numbers have to all be DIFFERENT and must be from these: 1.9, 0.7, 4.7, 8.8, 3.5, or 2.8.

	3.5		1.9		☐ greater than 0.7		8.8	
8.8	**41.9**	27.7	☐	8.8	**45.6**	☐ even	**42.8**	☐ even
	1.9		☐ even		☐ even		☐ either 1.9 or 4.7	
27.7	**43.1**	☐ less than 8.8	**34**	☐ odd	**32.4**	☐ even	**37.1**	☐ even
	☐ either 25.1 or 8.8		☐ less than 28.6		☐ even		☐ less than 28.6	
1.9	**44**	☐ even	**45.6**	☐ even	☐ even	☐ even	☐ even	☐
	☐ either 4.7 or 3.5		☐		25.1		4.7	

☐ either 25.1 or 8.8 (square under 41.9/43.1 label: "either 25.1 or 8.8")

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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: 15.7, 26.2, or 16.5.
The other three numbers have to all be DIFFERENT and must be from these: 3.6, 8.2, 5.3, 1.1, 2.8, or 0.1.

	1.1			
		greater than 3.6	either 26.2 or 15.7	either 26.2 or 2.8

3.6 **26.5** 16.5 **25.9** 0.1 **35.2** 5.3 **40.8** 1.1

even

5.3 — odd — less than 5.3 — greater than 0.1

32.8 **20.5** **24** **28.4**

either 0.1 or 2.8 — less than 26.2 — greater than 0.1 — even

even — either 3.6 or 0.1 — odd — even

38.3 **23.9** **39.8**

greater than 0.1 — odd — either 3.6 or 15.7 — even

32.7 **22.2** **25.7** **35.4**

greater than 2.8 — odd — greater than 1.1 — less than 8.2

even — even — either 1.1 or 3.6 — odd

31 **38.1**

even — greater than 3.6 — either 0.1 or 16.5 — less than 3.6

less than 26.2 — greater than 8.2 — greater than 5.3 — either 2.8 or 16.5

Welcome Back to School