Name: $\qquad$
Mental Math

- Start with the product of 5 and 9 .
- Subtract 21.

7597246026 (Circle your answer to double check you are correct.)


- Round to the nearest ten.

9920351541

- Add the number of inches in 1 foot.

7324998653

- Increase that number by 1.

4434638332

- Find one-third.

4013561172

- Add two-thirds of a dozen.

2819619598

- Add 6.

```
2585263466
```

- Find the square root.

7087179059

- Add 16.

2115749726

- Add the digits in your number. The sum of that is your new number.

Name:
The high school band is buying new saxophones this year.
The cost to the school per saxophone is \$267.39, including tax. If the school purchases ten saxophones, what will the total cost be?

The W32.Envid worm discovered on November 13 has an infection length of 36,864 bytes. There are 1024 bytes in one kilobyte. Write the infection length of the worm in kilobytes.

The average cost for a hospital stay is $\$ 157$ per day for a standard room and $\$ 526$ per day for intensive care. If Peter stays in intensive care for six days and in a standard room for seven more days, what will the total room cost be?

Maria built a new cabinet for one of her antique radios. The front of the cabinet is 8.7 inches wide and 12.2 inches high. If she doubles the length and width, what will the area be? Round your answer to the nearest hundredth.

Jenna was bored. She asked her mother if she could make cookies. Her mother agreed, so Jenna got busy. She made 3 dozen oatmeal cookies and 16 chocolate chip cookies. How many cookies did she make in all?

Mr. Smith wanted to buy a French tea press for his wife. He went to the Afternoon Tea Store. The prices for their teapots were $\$ 14.88, \$ 41.92, \$ 32.89$, and $\$ 10.90$. What is the range of prices?

Name:

A Sally Ride Festival was held in Miles City to encourage middle school and high school girls to study math and science. Of the girls who attended, $\frac{1}{5}$ were in 7 th grade, $\frac{1}{3}$ were in 8th grade, and the rest were in high school. What fraction of the girls was in high school?

Mr. Miller said that only 3 out of 25 dogs are chosen to pull sleds in the Iditarod. If that were true, how many dogs out of 84 would be chosen?

## Consider a piece of

 paper in the shape of a parallelogram - any parallelogram. How can this piece of paper be used to prove the formula for the area of a triangle?According to the polar bear census taken in the Alaskan Native Wildlife Refuge, there were 35 polar bears born last month. Of that number, 20 were female and the rest were male. What is the ratio of females to males? (Express your answer as a fraction in lowest terms.)

Ms. Lee borrowed $\$ 4,300$ to help her finish her last year of master's degree classes in teaching reading. She will repay it in five years at a simple interest rate of 6.3\%. How much will she have to repay at the end of five years?

Name: $\qquad$

| Circle the smallest number: |  |  | $11 \mathrm{lb}=16 \mathrm{oz}$ |
| :--- | :--- | :--- | :--- |
| $743,092,835$ | $27,958,013$ |  |  |
| $460,931,784,256$ | $8,260,159$ | $12 \mathrm{lb}=\ldots$ |  |

Amy rolls a die. What is the
chance of her rolling a 2?

Write this as a number in standard form.
Use a comma in your number.
eight hundred fifty-eight thousand, six
hundred thirty-three

| $8 \times 7=\ldots$ | Amanda and her little sister, Sarah, both have <br> birthdays on the same day. Amanda is <br> fourteen years old. Sarah is ten years old. Did <br> you know that Amanda was once double the <br> age of Sarah? How many years ago was that? | 92 <br> -266 <br> 269 |
| ---: | :--- | :--- |
|  |  |  |

Jessica rolls two dice. What is the chance of her rolling a 3 on one die and a 3 on the other die?

Amanda and Amy are playing a number game.
Amanda says 15. Amy replies that the answer is 6 .
Amanda says 18. Amy replies that the answer is 9.
Amanda says 12. Amy replies that the answer is 3.
Amanda says 10. Amy is thinking. What number should Amy reply with?

| $25 \mathrm{~kg}=\ldots \mathrm{g}$ |
| :--- |



Name:


Name:

| $84 \div 7=$ | $8 \div 2=\square$ |
| :--- | :--- |
|  |  |
|  |  |

Two-fifths of the children in Miller's class want to go outside. If Miller agrees with the majority, will the class stay inside or go outside?

Can 809 be evenly divided by 5 ? Circle:
$8 \times 2=$ $\qquad$ 809 is evenly divisible by 5 809 is NOT evenly divisible by 5

$10 \times 6=$

Can 429 be evenly divided by 10 ? Circle:
429 is evenly divisible by 10
429 is NOT evenly divisible by 10
$\qquad$
For $1,420,210,114,028$, write the digit that is in the hundred thousands place.
$\square$
$30 \div 6=$ also has one other coin that is different from the rest of his coins. How much could he have?

Name: $\qquad$
$6 \cdot 5 \cdot \div \cdot 5 \cdot \div \cdot=8 \cdot 5 \cdot 1 \cdot 2 \cdot 6 \cdot 0 \cdot 4 \cdot 6 \cdot=$
Use the pieces above to help you fill in the runaway math puzzle.


| What time is 15 hours after <br> $5: 00$ p.m.? | Which is the better buy? <br> Three bags of candy for $\$ 9$ |
| :--- | :--- | :--- |
| or eight bags of candy for |  |
| $\$ 64 ?$ |  |

Name:

What is $5 y-6$
when $\mathrm{y}=3$ ?

What is $8 \mathrm{~m}+429$
when $\mathrm{m}=4$ ?

What is $39+8 s$
when $s=6$ ?

What is $7+\frac{5 r}{6}$
When $r=$ ?

Hannah is coding programs. What will these two programs print to the screen?
$r=4 ;$
$b=2 r+91$
print (b)
$y=7 ;$
$a=28 / y$
print ( a )
Hint: / is code for division.
print ( a )

## Ready to code?

Write a program that assigns the value of 7 to $r$. Then write another line of code that assigns the value of $r$ plus 66 to $b$. Your last line of code should print the variable $b$.

Name: $\qquad$
The (make-believe) country of Slowmonia, after 22 years of research, launched a rocket into space to land on Pluto. It is slow! It travels 2.939 kilometers in a month. How far will it travel in 70 years?

Anna has given powers to her collection of dolls. There are the $A$ dolls and the $D$ dolls. Today, she is having a match between one A doll and one D doll. The doll with more power will win. Who will win?

Four A dolls have 2 power points.

## Three D dolls have 4 power points.

Write as a fraction in simplest form.

$$
\frac{5}{6}+\frac{9}{10}+\frac{1}{15}=
$$

$$
\frac{2}{3}+\frac{7}{8}+\frac{1}{6}=
$$

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

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?

| imagine 2 in your <br> head <br> add 7 <br> add 5 | imagine 4 in your <br> head <br> multiply 7 <br> add 3 <br> Wubtract 6 <br> add 5 <br> double it |
| :--- | :--- |
| $\frac{\text { A }}{}$ | Write the tens digit. |


| imagine 4 in your <br> head <br> multiply 5 |  |
| :--- | :--- |
| double it |  |
| subtract 8 |  |
| add 8 |  |
| add 4 |  |
| Add the tens digit to <br> the ones digit. <br> Write the sum. | imagine 9 in your <br> head <br> add 2 <br> add 3 <br> double it |

What is the sum?

$$
A+B+C+D
$$

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



5 after 19 $\qquad$
9 after 18 $\qquad$

5 before 11 $\qquad$
8 before 18 $\qquad$

7 before 13 $\qquad$
7 after 16 $\qquad$

1 before 14 $\qquad$

6 before 12 $\qquad$

9 before 15 $\qquad$

Name: $\qquad$
Find the way from START to END by passing through EVERY number that is a multiple of fifteen exactly ONCE. Cross off each box that is NOT a multiple of fifteen. Yes, that means you have to go through ALL the multiple of fifteen boxes. Wow!
You are not allowed to go diagonally. Good luck!

| START | 163 | 930 | 615 | 735 | 885 | 630 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 840 | 810 | 345 | 622 | 405 | 570 | 465 |
| 195 | 750 | 233 | 909 | 855 | 30 | 90 |
| 765 | 645 | 120 | 336 | 195 | 420 | 375 |
| 120 | 30 | 555 | 240 | 15 | 135 | 285 |
| 225 | 60 | 135 | 75 | 315 | 510 | 315 |
| 795 | 930 | 945 | 555 | 870 | 600 | 525 |
| 788 | 285 | 675 | 945 | 525 | 945 | 75 |
| 922 | 702 | 924 | 193 | 120 | 960 | 645 |
| 264 | 376 | 566 | 924 | 431 | 736 | END |

Name: $\qquad$

## Color Squares Puzzle

Color in the number of consecutive boxes in each row and column. Double check when you are done!


CLUE A: Color in 2 consecutive boxes.
CLUE B: Color in 2 consecutive boxes.
CLUE C: Color in 1 box.Then color at least one blank. Then color in 3 consecutive boxes..
CLUE D: Color in 5 consecutive boxes.
CLUE E: Color in 4 consecutive boxes.
CLUE F: Color in 6 consecutive boxes.
CLUE G: Color in 2 consecutive boxes.
CLUE H: Color in 3 consecutive boxes.
CLUE I: Color in 4 consecutive boxes.
CLUE J: Color in 2 consecutive boxes.
CLUE K: Color in 2 consecutive boxes.
CLUE L: Color in 3 consecutive boxes.
CLUE M: Color in 4 consecutive boxes.

CLUE N: Color in 2 consecutive boxes.
CLUE O: Color in 1 box.
CLUE P: Color in 2 consecutive boxes. Then color at least one blank. Then color in 1 box..
CLUE Q: Color in 3 consecutive boxes.
CLUE R: Color in 4 consecutive boxes.
CLUE S:
Color in 6 consecutive boxes.
CLUE T: Color in 6 consecutive boxes.

Name:

## Sudoku Sums of 16

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 16 .

Here is an example of a sudoku sum of 16 :


|  | 4 |  | 3 | 5 | 8 |  | 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 4 | 2 |  |  |
|  | 1 | 8 |  |  |  |  | 4 | 6 |
|  | 5 |  |  |  |  | 9 |  |  |
|  |  | 9 | 7 |  |  |  |  | 1 |
|  | 7 |  |  |  |  |  |  |  |
| 9 |  | 2 |  |  | 7 |  |  |  |
| 5 |  |  |  | 8 | 1 |  |  | 2 |
| 1 | 8 |  |  |  |  |  | 3 |  |

Simplify.
$\frac{2,200}{3,300}=$

If $4 x=60$, then $x=$
$(9+18)+7=2(v+12)$
What is the value of $v$ ?

ACROSS

1. What is the greatest common factor of 30 and 50?
2. Two less than 18-Across
3. How many factors does 20 have?
4. 18-Across plus 19-Down
5. Five more than 8-Down
6. What is the greatest common factor of 44 and 64?
7. What is the greatest common factor of 9-Down and 7-Down?
8. What is the lowest common multiple of 9-Down and 19-Down?
9. First prime number after 10-Down
10. Average of 9-Down and 21-Across
11. Four times 10-Down
12. 2-Across plus 19-Down

## DOWN

2. One-fourth of 15-Down
3. 16-Down plus 20-Across
4. Sum of digits of 3-Down
5. six million, seven hundred forty thousand, one hundred twenty-seven
6. The factors of 40 are $1,2,4,5,8, \ldots, 20,40$.
7. First composite number after 10-Down
8. 12
9. $9+12$
10. Its digits total 14
11. What is the greatest common factor of 9-Down and 20-Across?
12. The factors of 42 are $1,2,3,6,7,14, \ldots, 42$.
13. What is the lowest common multiple of 11-Across and 18 -Across?
14. 18-Across plus 21-Across
15. Average of 8-Down and 7-Down
16. How many factors does 21 have?


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