Logic 2: Due November 19, 2018

Name _____   **Period** ____

Problem 1   Time = _____

$A < B < C < D$ None of the values is negative.   None of the letters is equal to 0.

$$A + D + D = 31$$
$$A + B + C = 22$$
$$A + B + B + C = 30$$
$$A + A + B + B = 22$$

$A =$ ____ $B =$ ____ $C =$ ____ $D =$ ____

Problem 2   Time = _____

Cross out 12 of the letters below to form a 4 word sentence that is common.

ABTEASTOYONFBOATEHWOTRLADANS

Problem 3   Time = _____

Find the value of the letters in the true multiplication problem.

```
    A M
  x I M
  -----
  I A M
+ A M Y
  -----
  S U M
```

A = _____

M = _____

I = _____

Y = _____

S = _____

U = _____

Problem 4   **Time =** _____

X, Y, and Z are three different digits in the problem below, with none of them being 0. Find the values of them that make the below statement true.
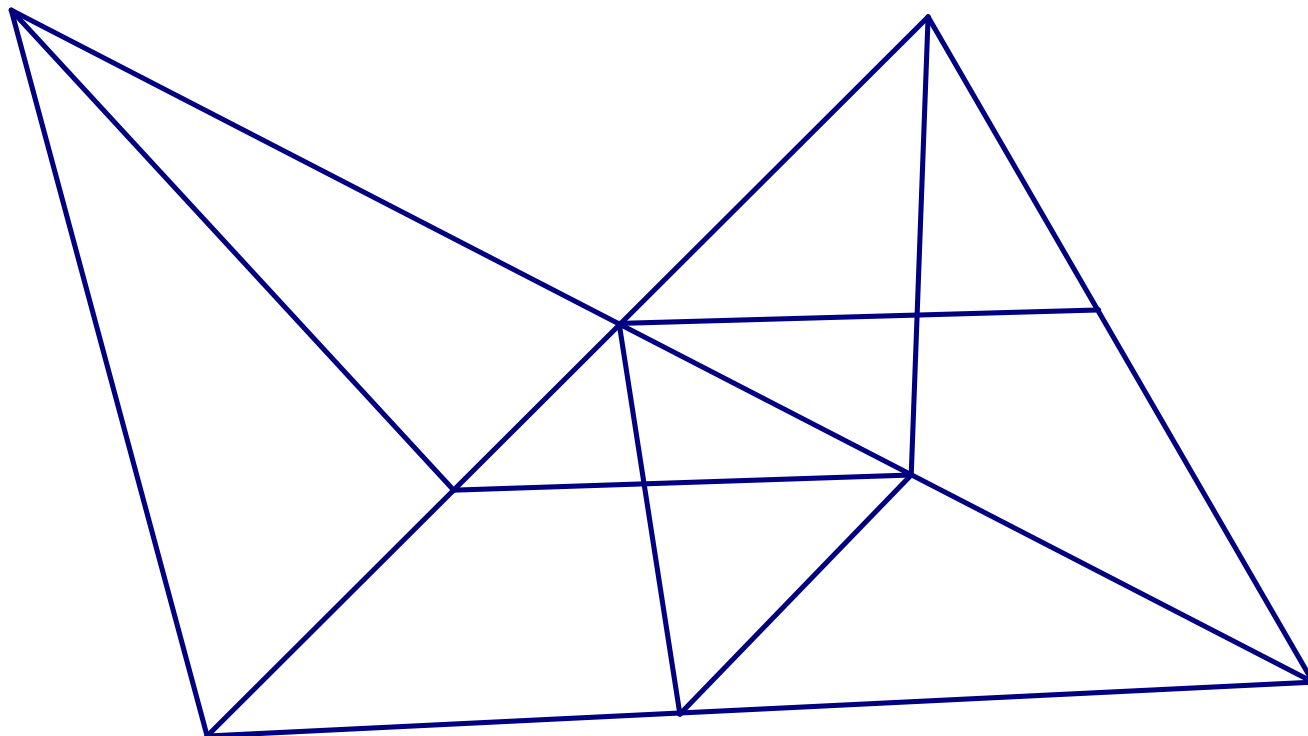
NOT MY OWN

$$
\begin{array}{r}
X\,X\,X\,X \\
Y\,Y\,Y\,Y \\
+\ Z\,Z\,Z\,Z \\
\hline
Y\,X\,X\,X\,Z
\end{array}
$$

X = _____   Y = _____   Z = _____

Problem 5   **Time = _____**

**How many total triangles do you see? This is not as easy as you might think.
Come up with a way to keep track of your triangles.**

Problem 6   Time = _____

Midway through the basketball season, Liam calculates that he has made 42.8% of his 306 free-throw attempts. How many more free throws would he have to make in a row, without missing, to raise his average to 50%?

Answer = _____

Problem 7   Time = _____

Here is another old problem from when I was younger (not that I am old now). Place two minus signs and one plus sign between the numbers below to make it a true equation.

1 2 3 4 5 6 7 8 9 = 100

Fill in the missing digits to make the problem below a true multiplication problem.

		8	☐	3
✕			1	☐
	1	☐	2	☐
+	☐	☐	3	☐
	☐	☐	5	☐

Problem 9   **Time = _____**

Using the numbers 1-16, make each adjacent pair of numbers (vertically and horizontally) add up to a prime number.
Prime numbers are numbers that can only be divided by 1 and themselves.
Here are the first 11 prime numbers, which is all you should really need: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, and 31.

		1	
	7	**6**	

Problem 10   **Time = _____**

At the beginning of a meeting everyone exchanged handshakes. If there were a total of 55 handshakes, how many people were in the meeting?
HINT: Figure out the pattern of 3 people hand shaking, 4 people, 5 people, etc.

Logic 2 Answers

(Due Friday, November 19, 2018)

Name _____   **Period** _____

Problem 1   **Time = _____**

A = _____   B = _____   C = _____   D = _____

Problem 2   **Time = _____**

Sentence: _____

Problem 3   **Time = _____**

A = _____   M = _____   I = _____

Y = _____   S = _____   U = _____

Problem 4   **Time = _____**

X = _____   Y = _____   Z = _____

Problem 5   **Time = _____**

Triangles = _____

Problem 6   **Time = _____**

Answer = _____

Problem 7   **Time = _____**

1 2 3 4 5 6 7 8 9 = 100

Problem 8   **Time = _____**

```
    8 □ 3
 ×     1 □
  1 □ 2 □
+ □ □ 3 □
  □ □ 5 □
```

Problem 9   **Time = _____**

		1	
	7	6	

Problem 10   **Time = _____**

Answer = _____