Logic 4: Due May 3, 2019

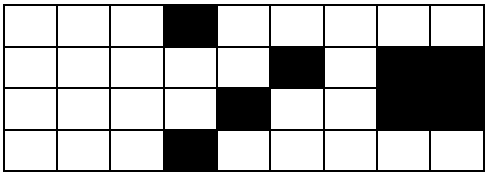
Name _____ Period ____

Problem 1 Time = _____

To solve these Phrase Boxes, drop the letters from each vertical column into the empty squares below them to spell a sentence. Black squares indicate the ends of words.

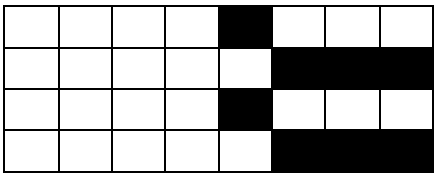
Phrase Box 1

I	T	D	K	C	O	N	E	T
B	U	U	G	E	A	A	'	R
J	O	O		C	B	Y		
Y	O	S				V		



Phrase Box 2

S	T	T	L	S	T	N	E
W	I	R	D	E	O	W	O
B	I	L	H				
K	I	O	N				



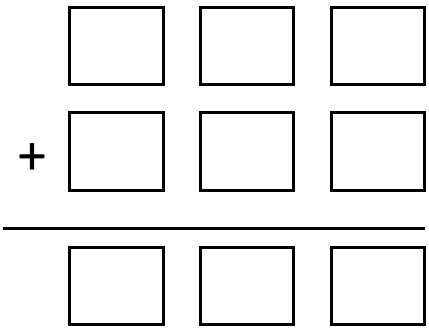
Problem 2 Time = _____

If the probability of having a girl is ½ and the probability of having a boy is also ½, what is the probability that a family with four children has two boys and two girls?
PUT ANSWER AS A FRACTION

Hint: List out all the possibilities and then see what percent are families with 2 boys and 2 girls.
Example: Boy, Boy, Boy, Girl OR Boy, Girl, Boy, Boy
(These are different and would count as two different outcomes.)

Problem 3 Time = _____

Use each of the digits 1-9 to form a correct addition problem.
You can only use each digit once.



Problem 4 **Time = _____**

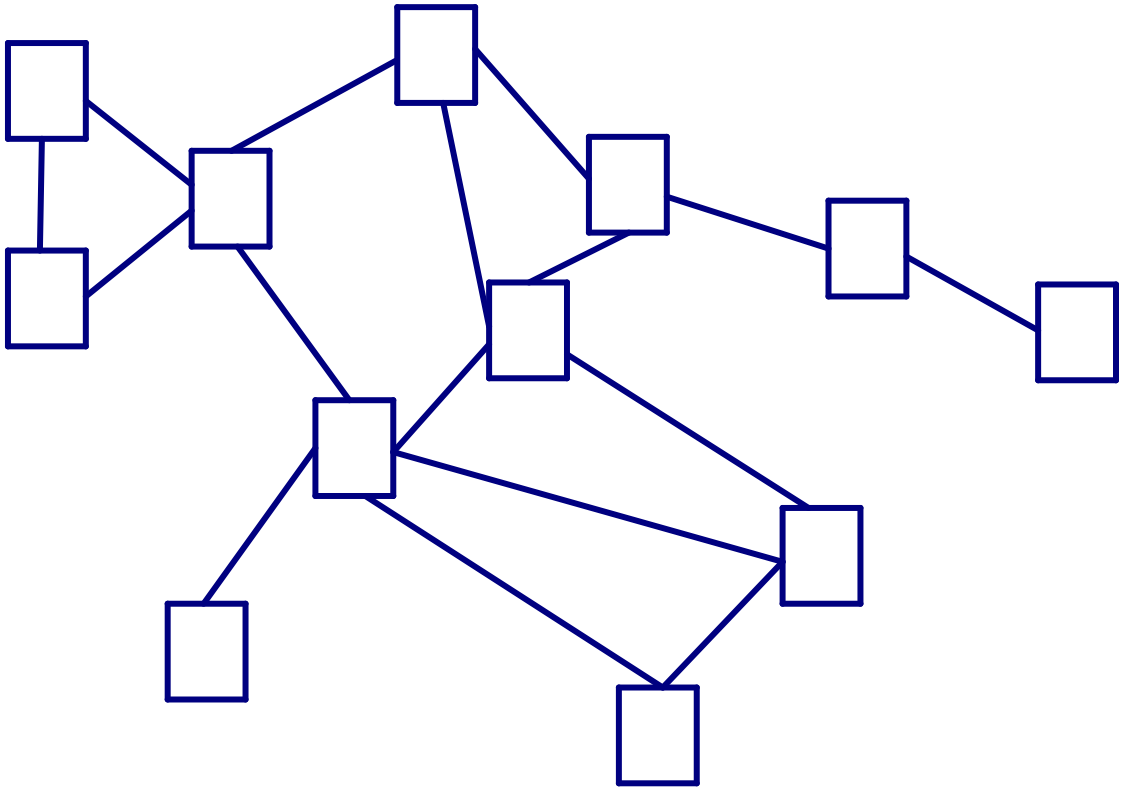
(Here is a problem that I gave about 20 years ago. I don't remember if I made it up or got it from someone, so I will not take credit for it.)

There are twelve friends who have been chatting on the phone:
Aaron, Beth, Chad, Dina, Eddie, Fred, Gillie, Hannah, Ira, Juan, Kevin, and Leon.

Below is a map of their twelve houses. A line connecting two houses shows which two people talked on the phone. Use the map and the clues to figure out in which house each person lives. Fill in the blanks with the person's **first initial** when you have figured out where he or she lives.

Here is the list of who talked to whom last night:

Gillie – Ira	Beth – Juan	Dina – Eddie	Dina – Gillie
Aaron – Juan	Hannah – Eddie	Dina – Ira	Chad – Dina
Beth – Kevin	Eddie – Fred	Hannah – Aaron	Chad – Juan
Aaron – Eddie	Beth – Chad	Juan – Eddie	Leon – Kevin



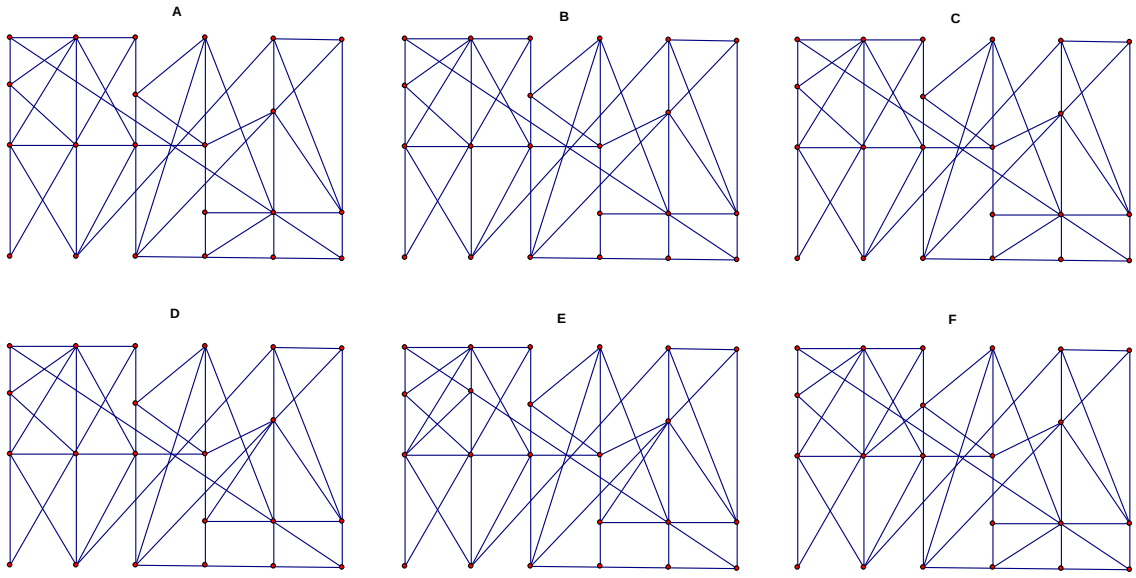
Problem 5 **Time = _____**

Have each row add up to the number to the right of the row and have each column add up to the number below the column. Within a row or column, you cannot use the same number twice.
Here are the numbers you must use on this box:
1, 1, 1, 2, 2, 3, 4, 4, 4, 5, 5, 6, 6, 8, 8, 9

				13
				15
				18
				22
18	14	13	24	

Problem 6 **Time = _____**

Which of the following 2 are exactly the same? _____



Problem 7 **Time = _____**

Find a, b, c, d, e, and f given the following conditions:

a (b + c + d + e + f) = 184
b (a + c + d + e + f) = 225
c (a + b + d + e + f) = 301
d (a + b + c + e + f) = 369
e (a + b + c + d + f) = 400
f (a + b + c + d + e) = 525

a = _____ b = _____ c = _____ d = _____ e = _____ f = _____

Problem 8 **Time = _____**

Find the numbers that make the following equation true given the facts about each:

a + b + c + d + e = 59

a is 5 times the value of b.
b is 10 less than d.
d is 8 times the value of c
e is 1 less than b and 3 more than c.

a = _____ **b = _____** **c = _____** **d = _____** **e = _____**

Problem 9 **Time = _____**

Here is another problem from one of my Hampden-Sydney professors.

Consider the following square and the rules that go with the square.

1	2	3
4	5	6
7	8	9

Each square is exactly one of the following colors: green, orange, red, or yellow.
Square 3 is yellow. Square 5 is orange. Square 9 is green.
Square 1 is not red. Square 7 is neither orange nor red.
If two squares have a common side, they are not the same color. For example squares 5 and 6 cannot both be green, but squares 1 and 5 could both be orange since they don't share a common side.

1. Which of the following statements **cannot** be true?

   1 is green 1 is orange 4 is green 8 is green 8 is yellow

2. If the colors of the squares are such that as many as possible are red, how many of the squares must be red?
   1 2 3 4 5 6

3. If square 3 is the only yellow square, which one of the following statements must be false?
   1 is green 1 is orange 4 is green 4 is red 8 is red

4. If the colors of the squares are such that as few as possible are green, how many squares must be green?

   0 1 2 3 4 5

Problem 10 **Time = _____**

Below is what is called a Numbrix. Marilyn vos Savant came up with the idea and I have made my own for you to try. If you like this type of problem, go to www.parade.com/numbrix for some other Numbrix puzzles.

Complete 1-81 so the numbers follow a horizontal or vertical path. No diagonal paths are allowed.

49								79
	45		53		75		77	
		43		71		67		
	41						65	
		37		57		59		
	29						13	
		31		33		9		
	23		19		17		7	

Logic 4 Answers – Due May 3, 2019

Name _____ **Period _____**

Problem 1 **Time = _____**

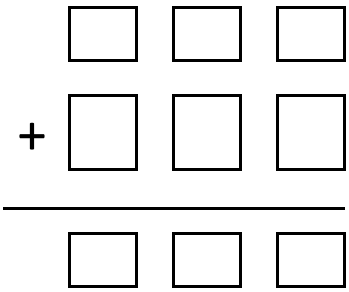
Phrase 1 is _____

Phrase 2 is _____

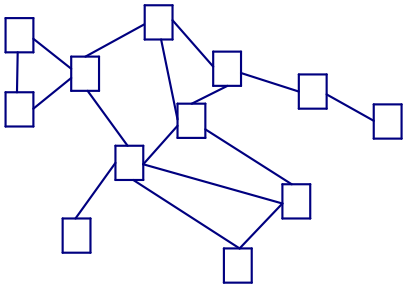
Problem 2 **Time = _____**

Answer is _____

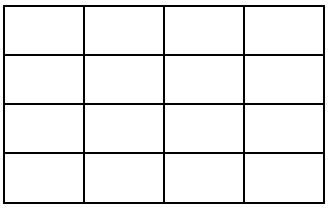
Problem 3 **Time = _____**



Problem 4 **Time = _____**



Problem 5 **Time = _____**



Problem 6 **Time = _____**

Which 2 are the same? _____

Problem 7 **Time = _____**

a = ____ b = ____ c = ____

d = ____ e = ____ f = ____

Problem 8 **Time = _____**

a = ____ b = ____ c = ____

d = ____ e = ____

Problem 9 **Time = _____**

1. _____
2. _____
3. _____
4. _____

Problem 10 **Time = _____**

Tell me the number UNDER each of these:

23: ____ 29: ____ 41: ____

57: ____ 65: ____ 81: ____