MTH 154, Quiz #2, Spring 2021   Name   **KEY**

Instructions: You must show all work to receive full credit for the problems below. You may use Excel where appropriate. Any datasets needed will be posted on Canvas with the quiz file, and you should submit such work along with your quiz. Round answers to two decimal places unless other instructions are given in the problem.

1. Following the screenshot below, the formula shown in the formula box is the full formula that appears in cell B1. What is the output of the formula when we press ENTER?

   A1   ✕ ✓ f_x =IF(A1<25,1,0)

	A	B	C	D	E
1		15,1,0)			
2		29			
3		35			
4		24			
5		35			
6		46			

   1

2. Rewrite the expression $\forall x \exists y \, (x - y \geq 7)$ in English words. Give an example of an x and a y that satisfies the expression.

   for all x, there exists a y such that x−y is greater than or equal to 7

   if x is 12 and y is 1   then 12−1=11 which is greater than 7

3. If p is the statement "My homework is easy", and q is the statement "Math is fun", translate each of the following logical notations into English sentences.
   a. $p \wedge q$

   My homework is easy and Math is fun.

   b. $p \vee q$

   My homework is easy OR math is fun

   c. $p \rightarrow q$

   If my homework is easy then math is fun.

   d. $\sim q$

   Math is not fun