

Q1. Consider the following argument:

1. if a student's CENG115 grade is CB the student will pass Finite Mathematics;
2. Ali is a student who took CENG115;
3. Ali's grade in CENG115 grade is DD;
4. therefore, Ali will not pass Finite Mathematics.

Trust us: the above argument is *very wrong*! Find and explain the error in the argument (Hint: *inverse error*)

Q2. Suppose that a student misses the first midterm, obtains 20 on the second midterm and misses the final. Suppose further the same student presents a valid doctors note for missing the final exam and receives 25 on the make-up exam. What homework grade does the student need to pass the course.

Q3. The homework grades of a student in Math 144 are

H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11	H12	H13	H14
10	12	1	5	3	15	15				10	15	15	

How many points will the homeworks contribute towards the student's letter grade?

Q4. For each linear equation bellow describe the set of solutions. If the equation is not linear explain why.

1. $2x_1 + x_2(1 + x_3) + \sqrt{4}x_3 = 4$
2. $(\cos 2)x_1 + \ln(7x_2) + \sqrt{4}x_3 = 4$
3. $0x_1 + (\ln e^6)x_2 + \sqrt{4}x_3 = 4^{\log_4 7}$

Q5. Consider the following system of linear equations in $\{x_1, x_2, \dots, x_9\}$.

$$\begin{aligned} 3x_1 - x_2 + x_8 - 5x_9 &= 1 \\ x_3 + 2x_5 + x_6 + 3x_7 &= 3 \\ 2x_2 + 5x_4 + 2x_5 + x_9 &= 4 \\ 2x_2 + 2x_5 + x_9 &= 9 \end{aligned}$$

which of the following is a solution to the above system of linear equation:

1. $(1, 2, -1, -1, 2, 3, -1, 5, 1)$
2. $(1, 2, -1, -1, 2, 0, -1, 5, 1)$
3. $(1, 2, -1, -1, 2, 3, -1, 5, 1, 0)$