

MAU11S02 Group A1 Quiz 03 9am 12/2/20 ANSWERS

Rules and procedures.

1. Answers must be handed up at the end of the tutorial, no other time. 2. Attempt 3 questions. Only *your first three answers* will be marked. 3. Each question carries 20 marks, so the maximum quiz mark is 60. 4. Marked quizzes will be returned, and answers published, the following week. 5. If a particular method of solution is stipulated, you get no marks if you don't use it. 6. The (9) quizzes will contribute 20% to your overall mark. 7. You are allowed to collaborate and compare answers during the tutorial. 8. **Show all work.** No marks will be given for answers which do not show the calculations.

Answer 1.

cofactor expansion along column 4

-1	-1	1	-5
2	2	-1	9
2	3	-4	14
1	4	-9	17

1 4 minor 1 cofactor -1

2 4 minor 2 cofactor 2

3 4 minor 3 cofactor -3

4 4 minor 1 cofactor 1

-2

Answer 2.

-1	-1	1	-5
2	2	-1	9
2	3	-4	14
1	4	-9	17

-1	-1	1	-5
0	0	1	-1
0	1	-2	4
0	3	-8	12

swap

swap

-1	-1	1	-5
0	1	-2	4
0	0	1	-1
0	3	-8	12

-1	-1	1	-5
0	1	-2	4
0	0	1	-1
0	0	-2	0

-1	-1	1	-5
0	1	-2	4
0	0	1	-1
0	0	0	-2

-1	-1	1	-5
0	1	-2	4
0	0	1	-1
0	0	0	-2

Det of UTF is 2, one swap: -2.

Answer 3.

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Answer 4.

-1	2	1	0	5	*(-1)	=R1
-2	6	0	-2	12	+2*R1	
0	-1	-1	-1	-5		

1	-2	-1	0	-5	+2*R2	
0	2	-2	-2	2	*(1/2)	=R2
0	-1	-1	-1	-5	+1*R2	

1	0	-3	-2	-3	+3*R3	
0	1	-1	-1	1	+1*R3	
0	0	-2	-2	-4	*(-1/2)	=R3

1	0	0	1	3		
0	1	0	0	3		
0	0	1	1	2	in rref	

Yes, Yes, No.

Answer 5. Yes, Yes, No.