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| Assessment 3Dusty Wilson Math 220 No work = no credit | **Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *The lectures were difficult, and only serious students could understand them. ... During his lectures he did not bother about the order of equations on the blackboard, nor about his personal appearance.* Andrei Andreyevich Markov 1856 - 1922 (Russian mathematician) |

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| Warm-ups (1 pt each):  Note: Assume | =\_\_\_\_\_ | =\_\_\_\_\_ | =\_\_\_\_\_ |

(1 pt) The quote above describes Markov as a teacher. Do you think Markov would have gotten good reviews on RateMyProfessor? Answer using complete English sentences.

(5 pts) Calculate the determinant of **  by hand (it is okay to check with a calculator). Is matrix *A* invertible? Why or why not?

(10 pts) Answer the following:

1. Calculate .

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1. Is  singular? If possible, find .
2. Explain the process for finding the inverse of an *n* x *n* matrix *A*.

1. How many rows does *B* have if *BC* is a 3x4 matrix?

(7 pts) For the matrix , there are at least 13 statements equivalent to, “*A* is invertible.” List at least seven of them. List more for extra credit.

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| i.) *A* is invertible. | vi.) |
| ii.) | vii.) |
| iii.) | viii.) |
| iv.) | ix.) (1 pt extra credit) |
| v.) | x.) (1 pt extra credit) |