Math 2318 – Linear Algebra ***Exam* 1** ***Review***

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1. Solve the system by Gaussian elimination





1. Given the matrices





1. Find the inverse of the following matrices if they exist.

***a***)  ***b***)  ***c***) 

1. Evaluate the determinant

***a***)  ***b***)   ***d***)  ***e***) 

1. Find  by inspection

 

1. Express  in terms of  and 
2. Solve the system of equations using Cramer’s Rule:

 

***Prove*:**

1.  where *A*, *B*, and *C* are invertible
2.  where *A* is invertible
3. If *A* is invertible and , prove that 
4. Prove if , then *A* is symmetric and 
5. 
6. 
7.  *A* is *n* × *n*

***Solution***

1. 



1.    

   

 

1. *a*)  *b*)  *c*) 
2. ***a****) −*109 ***b***)   ***d***)  ***e***) 0
3. 



1. 
2. 

