

Name: \_\_\_\_\_

Score: \_\_\_\_\_

1. Suppose  $A$  and  $B$  are  $4 \times 4$  matrices for which  $|A| = \frac{1}{2}$  and  $|B| = 6$ .

(a)  $|AB| =$

(b)  $|A^{-2}| =$

(c)  $|BAB^{-1}| =$

(d)  $| - A | =$

(e) Suppose  $C^2 = A^2B^T$ . Find  $|C|$ .

2. Find all values of  $x$  for which the matrix  $X = \begin{bmatrix} x-1 & x+4 \\ 3 & x \end{bmatrix}$  is invertible.