

# Take-Home Quiz 2

(Due at 7:00 p.m. on Fri. September 21, 2007)

Division:

ID#:

Name:

Let  $A = [a_{h,i}]$  be an  $r \times s$  matrix,  $B = [b_{j,k}]$  an  $s \times t$  matrix,  $C = [c_{l,m}]$  a  $t \times u$  matrix and let  $L$  and  $T$  be matrices given below.

$$L = \begin{bmatrix} 0 & 1 & 0 \\ 6 & 1 & 3 \\ 0 & 4 & 3 \end{bmatrix}, \quad \text{and} \quad T = \begin{bmatrix} 1 & 1 & 1 \\ 6 & -3 & 1 \\ 8 & 2 & -2 \end{bmatrix}.$$

1. What is the size of the matrix  $(AB)C$ .

2. Write the  $(h, k)$ -entry of  $AB$ .

$$(AB)_{h,k} =$$

3. Write the  $(h, m)$ -entry of  $(AB)C$ .

$$((AB)C)_{h,m} =$$

4. Compute the product  $LT$ . (Show work!)

5. Find a  $3 \times 3$  matrix  $D$  such that  $LT = TD$ . (Solution only.)

Message 欄：(理系以外の人も含め) 高校・大学における数学は何のため？ [HP 掲載不可は明記のこと]