

Name \_\_\_\_\_

Mathematics 205: Linear Algebra  
Fall Semester 2004  
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Quiz #15  
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Consider the production model  $\mathbf{x} = C\mathbf{x} + \mathbf{d}$  for an economy with two sectors, where

$$C = \begin{bmatrix} 0.0 & 0.6 \\ 0.7 & 0.2 \end{bmatrix}.$$

A. Compute the matrix  $I - C$ .

B. Compute the inverse of the matrix  $I - C$ .

C. Use this inverse to determine the production level necessary to satisfy the final

$$\text{demand } \mathbf{d} = \begin{bmatrix} 38 \\ 76 \end{bmatrix}$$