

## College Algebra Quiz 5 Solution

Name \_\_\_\_\_

Score \_\_\_\_\_

- 1) T **F** The domain of the function  $\det$  is the set of natural numbers.  
2) T **F** The domain of a sequence is the set of natural numbers.  
3) T **F** The inverse of a matrix is a real number.  
4) T **F** The matrix  $\begin{bmatrix} 1 & 3 & -4 \\ 0 & 1 & 2 \end{bmatrix}$  has an inverse.

5) Compute:  $\det\left(\begin{bmatrix} 2 & -2 \\ -1 & -3 \end{bmatrix}\right) = (2)(-3) - (-1)(-2) = -8$

6) Compute the inverse of  $\begin{bmatrix} 2 & -2 \\ -1 & -3 \end{bmatrix}$  The inverse is  $\left(-\frac{1}{8}\right)\begin{bmatrix} -3 & 2 \\ 1 & 2 \end{bmatrix}$

- 7) (2 points) Explain how you would use the 1 in the 2,2 position of the following matrix to obtain a zero in the

1,2 position.  $\begin{bmatrix} 1 & -\frac{2}{3} & -15 \\ 0 & 1 & 2 \\ 0 & 5 & 6 \end{bmatrix}$   $\frac{2}{3}R_2 + R_1 \longrightarrow R_1$

- 8) (2 points) Perform the indicated row operation

$$\begin{bmatrix} 1 & 0 & 3 \\ 5 & 3 & -1 \\ 3 & -2 & 8 \end{bmatrix} \xrightarrow{-5R_1 + R_2 \longrightarrow R_2} \begin{bmatrix} 1 & 0 & 3 \\ \boxed{0} & \boxed{3} & \boxed{-16} \\ 3 & -2 & 8 \end{bmatrix}$$