**PreCalculus Ch. 8 Review Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**1. Determine the order of each matrix.**

**2. Write the augmented matrix for the system of linear equations.**

**3. Use the elementary row operations indicated to obtain the new row-equivalent matrix.**

**4. Determine whether each matrix is in row-echelon form, reduced row-echelon form or neither.**

a) row-echelon form a) row-echelon form

b) reduced row-echelon form b) reduced row-echelon form

c) neither c) neither

**5. Write the system of linear equations represented by the augmented matrix. Then use back substitution to solve. (Use variables *x*, *y*, and *z*)**

**6. Write the matrix in row-echelon form. Show your work, including the elementary row operations used.**

**7. Use matrices to solve the system of equations. Use either row-echelon with back substitution or reduced row echelon form. Show your work, including the elementary row operations used.**

**8. Use the equivalent matrices to find *x* and *y*.**

**9. If possible, evaluate each expression. Use and**

**10. If possible, find the product *AB* and *BA*. and**

**11. Evaluate each expression, if possible.**

**12. Find the inverse of the matrix (without using a calculator)**

**13. Find the inverse of the matrix (using a calculator)**

**14. Use an inverse matrix to solve the system of linear equations.**

**15. Find each determinant (without using a calculator)**

**16. Find the determinant (using a calculator)**

**17. Find the area of the triangle with vertices , and .**

**18. Use matrices to find the equation of the line passing through the points and .**

**ANSWERS:**

**1.**

**2.**

**3.**

**4.** a) row-echelon form b) reduced row-echelon form

**5. Write the system of linear equations represented by the augmented matrix. Then use back substitution to solve. (Use variables *x*, *y*, and *z*)**

**6. Write the matrix in row-echelon form. Show your work, including the elementary row operations used.**

(other answers are possible)

**7. Use matrices to solve the system of equations. Use either row-echelon with back substitution or reduced row echelon form. Show your work, including the elementary row operations used.**

**8. Use the equivalent matrices to find *x* and *y*.**

**9. If possible, evaluate each expression. Use and**

**10. If possible, find the product *AB* and *BA*. and**

**11. Evaluate each expression, if possible.**

**12. Find the inverse of the matrix (without using a calculator)**

**13. Find the inverse of the matrix (using a calculator)**

**14. Use an inverse matrix to solve the system of linear equations.**

**15. Find each determinant (without using a calculator)**

**16. Find the determinant (using a calculator)**

**17. Find the area of the triangle with vertices , and .**

**18. Use matrices to find the equation of the line passing through the points and .**