

Algebra 2

Unit: Systems of Equations and Inequalities

Section: Matrices and Determinants

Review Worksheet Key

1) Organize the following data into a matrix:

	Number of Peak Minutes Used	Number of Off Peak Minutes Used
Sue	251	337
Joe	402	107

$$\begin{bmatrix} 251 & 337 \\ 402 & 107 \end{bmatrix}$$

2) Use the following matrices to perform the given operations.

$$A = \begin{bmatrix} 1 & -7 \\ 0 & 4 \end{bmatrix}$$

$$B = \begin{bmatrix} 6 & 2 \\ -9 & -3 \end{bmatrix}$$

$$C = \begin{bmatrix} 3 & -2 \\ 0 & 4 \\ 5 & 11 \end{bmatrix}$$

$$D = \begin{bmatrix} 5 & -2 & 3 \\ 1 & -5 & 0 \end{bmatrix}$$

a. $A + B$

$$A + B = \begin{bmatrix} 7 & -5 \\ -9 & 1 \end{bmatrix}$$

b. $B - A$

$$B - A = \begin{bmatrix} 5 & 9 \\ -9 & -7 \end{bmatrix}$$

c. $A + C$

$A + C$ cannot be found because the matrices are not the same size.

d. $3C$

$$3C = \begin{bmatrix} 9 & -6 \\ 0 & 12 \\ 15 & 33 \end{bmatrix}$$

e. AB

$$AB = \begin{bmatrix} 69 & 23 \\ -36 & -12 \end{bmatrix}$$

f. BC

BC cannot be found because the number of columns in B is not equal to the number of rows in C.

g. AD

$$AD = \begin{bmatrix} -2 & 33 & 3 \\ 4 & -20 & 0 \end{bmatrix}$$

h. Find the determinant of A. Does this matrix have an inverse?

$\det(A) = 4$. This matrix does have an inverse.

i. Find the determinant of B. Does this matrix have an inverse?

$\det(B) = 0$. This matrix does not have an inverse.