Determine the solution set for the system represented by the augmented matrix.

1) $\left[\begin{array}{ccc|c} 1 & 0 & 2 & 4 \\ 0 & 1 & -1 & 1 \\ 0 & 0 & 1 & 0 \end{array}\right]$ 1) _____

A) { } B) {(4, 1, 0)}

2) $\left[\begin{array}{ccc|c} 1 & 0 & -6 & -7 \\ 0 & 1 & 3 & -1 \\ 0 & 0 & 0 & 0 \end{array}\right]$ 2) _____

A) {(-7 + 6z, -1 - 3z, z) | z is any real number}

B) { }

3) $\left[\begin{array}{ccc|c} 1 & 0 & -7 & 1 \\ 0 & 1 & 9 & 1 \\ 0 & 0 & 0 & 1 \end{array}\right]$ 3) _____

A) { } B) {(2, 6, 0)}

Find *B* - *A*.

4) $A = \begin{bmatrix} 2 & 6 \\ 4 & 4 \\ 2 & -7 \end{bmatrix}$, $B = \begin{bmatrix} -7 & 6 \\ -5 & -4 \\ 7 & 6 \end{bmatrix}$ _____

Perform the indicated operations.

5) Find $5A - 2B$. 5) _____

$A = \begin{bmatrix} 5 & 4 & 4 \\ 2 & 3 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} -5 & 5 & 5 \\ -3 & 1 & 8 \end{bmatrix}$

Find *AB*, if possible.

6) $A = \begin{bmatrix} 3 & -5 & 5 \\ 9 & 4 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} 9 & 8 \\ -4 & 0 \\ 3 & -3 \end{bmatrix}$ _____

Find AB and A^2.

7) $A = \begin{bmatrix} 2 & -2 \\ -3 & 9 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 5 \\ -2 & 3 \end{bmatrix}$ 7) _____

A) $AB = \begin{bmatrix} 6 & 4 \\ -21 & 12 \end{bmatrix}$; $A^2 = \begin{bmatrix} 10 & -22 \\ -33 & 87 \end{bmatrix}$

B) $AB = \begin{bmatrix} 2 & 18 \\ 5 & 9 \end{bmatrix}$; $A^2 = \begin{bmatrix} 2 & 1 \\ -3 & 9 \end{bmatrix}$

Determine the inverse of the given matrix, if possible. Otherwise, state the matrix is singular.

8) $A = \begin{bmatrix} 3 & 1 \\ -5 & 2 \end{bmatrix}$ 8) _____

A) $A^{-1} = \begin{bmatrix} \frac{2}{11} & -\frac{1}{11} \\ \frac{5}{11} & \frac{3}{11} \end{bmatrix}$

B) Singular matrix

Evaluate the determinant of the given matrix.

9) $A = \begin{bmatrix} 4 & 5 \\ 7 & -2 \end{bmatrix}$

Evaluate the determinant of the given matrix and state whether the matrix is invertible.

10) $A = \begin{bmatrix} 7 & 7 & 6 \\ 9 & -1 & 0 \\ 9 & 4 & -6 \end{bmatrix}$ _____

Solve the system, if possible, by using Cramer's rule.

11) $-6x - 3y = 2$ 11) _____

$-4x + 5y = -2$

Answer Key
Testname: Q&A_03

1) B
2) A
3) A
4) $\begin{bmatrix} -9 & 0 \\ -9 & -8 \\ 5 & 13 \end{bmatrix}$
5) $\begin{bmatrix} 35 & 10 & 10 \\ 16 & 13 & 9 \end{bmatrix}$
6) $\begin{bmatrix} 62 & 9 \\ 83 & 54 \end{bmatrix}$
7) A
8) A
9) -43
10) 690, Yes
11) $\left\{\left\langle -\frac{2}{21}, -\frac{10}{21}\right\rangle\right\}$