MTH 245 Homework 9
Due in recitation on May 27, 2010 (Week 9)

Check Problems. Choose the correct answer for each question and show work.

1. Solve the system of equations and determine $x + y$.

\[
\begin{align*}
2x - 5y &= 5 \\
6x + y &= 31 \\
2x + 11y &= 18
\end{align*}
\]

a. 1  
b. 2  
c. 3  
d. The system has no solution.

For the following two problems use

\[ A = \begin{pmatrix} 1 & 2 \\ 3 & 5 \end{pmatrix} \text{ and } B = \begin{pmatrix} 0 & 1 \\ 1 & 2 \end{pmatrix} \]

2. Determine $2A + B$. Note: The order of operations still applies here - multiplication is done before addition.

a. $\begin{pmatrix} 2 & 5 \\ 7 & 12 \end{pmatrix}$  
b. $\begin{pmatrix} 2 & 6 \\ 8 & 14 \end{pmatrix}$  
c. $\begin{pmatrix} 1 & 3 \\ 4 & 10 \end{pmatrix}$  
d. $\begin{pmatrix} 2 & 4 \\ 6 & 10 \end{pmatrix}$

3. Determine $AB$.

a. $\begin{pmatrix} 0 & 2 \\ 3 & 10 \end{pmatrix}$  
b. $\begin{pmatrix} 2 & 5 \\ 5 & 13 \end{pmatrix}$  
c. $\begin{pmatrix} 0 & 0 \\ 8 & 16 \end{pmatrix}$  
d. The matrices cannot be multiplied.

Practice Problems:
Section 2.3: 3, 5, 7, 9, 15, 17, 23, 25, 27, 31, 47, 67
Section 2.4: 3, 11, 15, 17, 23, 25, 27, 31, 33, 37, 41, 43
Section 2.5: 17, 21, 29, 39, 41, 49, 53, 67
Chapter 7 Review (pages 593 - 596): 13, 33, 37