Advanced Algebra/Trigonometry – Review Name:_____
Section 4.1 – 4.2 Matrices
Period:_____ Date:_____

Note:

1. **Upon completion of this worksheet, show it to the substitute, and the substitute will give you the extra credit assignment due Tuesday, May 26th, 2009.**
2. **The answers to this worksheet will be posted online. Use this to study for your quiz on Tuesday, May 26th, 2009. I will be here for tutoring Tuesday morning at 7 AM.**

Find the indicated matrix, if it exists. Write "undefined" if it does not. Be careful to perform the operation indicated (Addition, Subtraction, or Multiplication).

1. $-3\begin{bmatrix} -6 & 6 & 3 \\ 4 & 2 & -1 \\ 0 & -8 & 3 \end{bmatrix}$

$\begin{bmatrix} 18 & -18 & -9 \\ -12 & -6 & 3 \\ 0 & 24 & -9 \end{bmatrix}$

2. $\begin{bmatrix} 0 & -4 & 7 \\ 4 & 5 & 6 \\ 5 & 8 & 1 \end{bmatrix} + 2\begin{bmatrix} 0 & 8 \\ -5 & 1 \end{bmatrix}$

Undefined, ~~dime~~ dimensions are different

3. $\begin{bmatrix} 2 \\ 0 \\ 1 \\ 2 \end{bmatrix} - \begin{bmatrix} -6 \\ -3 \\ 1 \\ -2 \end{bmatrix} =$

$\begin{bmatrix} 8 \\ 3 \\ 0 \\ 4 \end{bmatrix}$

4. $2\begin{bmatrix} 0 & -4 & 7 \\ 4 & 5 & 6 \\ 5 & 8 & 1 \end{bmatrix} + \begin{bmatrix} -6 & 6 & 3 \\ 4 & 2 & -1 \\ 0 & -8 & 3 \end{bmatrix}$

$\begin{bmatrix} -6 & -2 & 17 \\ 12 & 12 & 11 \\ 10 & 8 & 5 \end{bmatrix}$

5. $\begin{bmatrix} 2 & 7 \\ -3 & 9 \end{bmatrix} - \begin{bmatrix} 0 & 8 \\ -5 & 1 \end{bmatrix} = \begin{bmatrix} 2 & -1 \\ 2 & 8 \end{bmatrix}$

6. $3\begin{bmatrix} 6 & 8 & 4 \end{bmatrix} + 2\begin{bmatrix} -7 & -9 & 3 \end{bmatrix}$

$\begin{bmatrix} 4 & 6 & 18 \end{bmatrix}$

7. $-5\begin{bmatrix} 9 & 5 & 0 & -2 & 6 \\ -7 & -3 & 1 & 4 & -8 \end{bmatrix}$

$\begin{bmatrix} -45 & -25 & 0 & 10 & -30 \\ 35 & 15 & -5 & -20 & 40 \end{bmatrix}$

8. $\begin{bmatrix} -1 & 6 \end{bmatrix} - \begin{bmatrix} -4 \\ 3 \\ -8 \end{bmatrix}$

Undefined
different dimensions

9. $\begin{bmatrix} -4 & 2 \\ 4 & 3 \\ 2 & 6 \end{bmatrix}\begin{bmatrix} 2 & -2 & -5 \\ -3 & 6 & 3 \end{bmatrix}$

3×2 2×3 ✓

$\begin{bmatrix} -14 & 20 & 26 \\ -1 & 10 & -11 \\ -14 & 32 & 8 \end{bmatrix}$

10. $\begin{bmatrix} 3 & 0 \\ 2 & 4 \\ 5 & 1 \end{bmatrix}\begin{bmatrix} 9 & 6 \\ -2 & 7 \\ 8 & -7 \end{bmatrix}$

3×2 3×2 ✗

Undefined

11. $\begin{bmatrix} 5 & 0 \\ 2 & -7 \end{bmatrix}\begin{bmatrix} 6 & -3 \\ 4 & 1 \end{bmatrix}$

2×2 2×2 ✓

$\begin{bmatrix} 30 & -15 \\ -16 & -13 \end{bmatrix}$

12. $\begin{bmatrix} -1 & 0 & -4 \\ 2 & -2 & 3 \end{bmatrix}\begin{bmatrix} -5 \\ 4 \\ 5 \end{bmatrix}$

2×3 3×1 ✓

$\begin{bmatrix} -15 \\ 3 \end{bmatrix}$

13. $\begin{bmatrix} 1 & 2 & 3 & 4 \end{bmatrix}\begin{bmatrix} 5 & 6 \\ 7 & 8 \\ 9 & 0 \\ 1 & 2 \end{bmatrix}$

1×4 4×2

$\begin{bmatrix} 50 & 30 \end{bmatrix}$

14. $\begin{bmatrix} 0 & 9 \\ 3 & -2 \end{bmatrix}\begin{bmatrix} 6 & 7 \\ 8 & -4 \\ -1 & 0 \end{bmatrix}$

2×2 3×2

✗ undefined

Tracy and Renaldo both collect maps. Together they have a variety of maps from the 1960s to the 1990s. Matrix '*M*' shows the number of each type of map they have.

	60s	70s	80s	90s
Europe	3	1	4	2
Asia	5	3	6	3
North America	2	7	9	5
Africa	8	5	4	6

$= M$

15. What are the dimensions of matrix *M*?

4×4

16. Describe the entry at M_{34}.

5 Maps of 90s in NA

17. What is the total number of maps of Africa that Renaldo and Tracy have?

23

18. What is the total number of maps from the 1960s that Tracy and Renaldo have?

18