Name_____ Class_____ Date_____

12-1 Practice

Form K

Organizing Data Using Matrices

Find each sum or difference.

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

2. $\begin{bmatrix} -9 & -3 \\ 4 & 6 \end{bmatrix} + \begin{bmatrix} -4 & 2 \\ -1 & 3 \end{bmatrix}$

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

4. $\begin{bmatrix} -2 & -1 \\ 0 & 2 \\ -6 & 4 \end{bmatrix} - \begin{bmatrix} 2 & -1.1 \\ -1 & -2 \\ -7 & 2.5 \end{bmatrix}$

5. $\begin{bmatrix} 4 & -2 & 3 \\ -1 & 2.2 & -0.1 \\ 1.5 & 6 & -1.8 \end{bmatrix} + \begin{bmatrix} 3.1 & 2 & 1.5 \\ 2.5 & 4 & -3 \\ 1 & -5 & 2 \end{bmatrix}$

6. $\begin{bmatrix} 2 & 8 & -3 \\ -1 & 3.6 & 5 \\ 0.5 & 4.2 & 1.8 \end{bmatrix} - \begin{bmatrix} 2.2 & 3.5 & -1.1 \\ -2.7 & 1.2 & 3 \\ 1 & -2 & 1 \end{bmatrix}$

Find each product.

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

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

9. $6\begin{bmatrix} 3 & -5 \\ 1 & -9 \end{bmatrix}$

10. $-1\begin{bmatrix} -8 & 0 \\ 10 & -4 \end{bmatrix}$

11. $0\begin{bmatrix} 0 & -8 \\ 5 & 12 \end{bmatrix}$

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

13. $0.5\begin{bmatrix} -6 & 4.2 \\ 12 & 1 \\ -3 & 0 \end{bmatrix}$

14. $-1.1\begin{bmatrix} -2 & 0 \\ -1 & -1.1 \\ 4 & 8 \end{bmatrix}$

12-7 Practice (Continued) Form K

Organizing Data Using Matrices

15. The number of books each girl read during the months of June and July during two different summers is shown below. Which girl showed the greatest improvement, in number of books read in July, from 2009 to 2010? Find the answer using matrices.

Books Read During 2009

	June	July
Anne	7	5
Soraya	4	6
Tiffany	10	9
Willow	13	13

Books Read During 2010

	June	July
Anne	8	12
Soraya	4	7
Tiffany	11	8
Willow	9	15

16. Pre-test and test scores for four algebra students on two different tests are shown below. Which student showed the greatest improvement from the pretest to the test on the second test? Find the answer using matrices.

Pre – Test

	Test 1	Test 2
Jeremiah	87	85
Shasta	75	81
Jerud	85	83
Zack	71	78

Test

	Test 1	Test 2
Jeremiah	91	89
Shasta	81	82
Jerud	91	81
Zack	67	87

Simplify each expression. (*Hint*: Multiply before adding or subtracting.)

17. $\begin{bmatrix} 3 & -1 \\ 3 & 1 \end{bmatrix} + 2\begin{bmatrix} 1 & 4 \\ 0 & -1 \end{bmatrix}$

18. $-1\begin{bmatrix} 3 & -4 \\ 2 & -1 \end{bmatrix} - \begin{bmatrix} 2 & 0 \\ -2 & -3 \end{bmatrix}$

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

20. $-6\begin{bmatrix} 2 & -2 \\ 0 & -0.5 \end{bmatrix} - \begin{bmatrix} 5 & -9 \\ -3 & 2 \end{bmatrix}$

21. $5\begin{bmatrix} -1 & -2 \\ 1 & 1 \\ -3 & 3 \end{bmatrix} - 2\begin{bmatrix} -2 & 4 \\ 0 & -1 \\ 1 & -3 \end{bmatrix}$

21. $-3\begin{bmatrix} 8 & -4 \\ -1 & 0 \\ 0 & 2 \end{bmatrix} + 2\begin{bmatrix} 0 & -3 \\ 2 & -5 \\ 3 & -1 \end{bmatrix}$