

NAME: \_\_\_\_\_

1. Find the sum of the matrices.  $\begin{bmatrix} 14 & -13 \\ 6 & -28 \end{bmatrix} + \begin{bmatrix} -21 & -10 \\ 9 & 17 \end{bmatrix}$

$$[A] \begin{bmatrix} -11 & 16 \\ -23 & -7 \end{bmatrix}$$

$$[B] \begin{bmatrix} -7 & -23 \\ 15 & -11 \end{bmatrix}$$

$$[C] \begin{bmatrix} -11 & 15 \\ -23 & -7 \end{bmatrix}$$

$$[D] \begin{bmatrix} -7 & -23 \\ 15 & -12 \end{bmatrix}$$

2. Add:  $\begin{bmatrix} 8 & 7 \\ 5 & -9 \end{bmatrix} + \begin{bmatrix} 3 & -4 \\ 6 & 2 \end{bmatrix}$

3. Find  $A + B$ .

$$A = \begin{bmatrix} -8 & -4 & -9 \\ -6 & 7 & 4 \end{bmatrix} \quad B = \begin{bmatrix} -5 & 2 & -1 \\ -4 & 0 & 9 \end{bmatrix}$$

4. If  $A = \begin{bmatrix} 6 & -4 & -1 \\ 2 & -6 & -3 \\ 0 & -2 & 9 \end{bmatrix}$  and  $B = \begin{bmatrix} -9 & 5 & 3 \\ -4 & -5 & 7 \\ 1 & -7 & 4 \end{bmatrix}$ , find  $A + B$ .

5. Subtract:  $\begin{bmatrix} 33 & -35 \\ 4 & -4 \end{bmatrix} - \begin{bmatrix} -21 & -22 \\ 38 & 23 \end{bmatrix}$

6. Use a graphing calculator to find the difference  $B - A$ .

$$A = \begin{bmatrix} 0.2 & 1.04 & 3.6 \\ -3 & 4.9 & -5.1 \end{bmatrix} \quad B = \begin{bmatrix} 1.6 & -3.2 & 4.1 \\ -5.6 & -2.1 & 3.08 \end{bmatrix}$$

7. If  $A = \begin{bmatrix} 0 & 2 & -7 \\ -3 & -2 & 3 \\ -9 & -1 & -4 \end{bmatrix}$  and  $B = \begin{bmatrix} -8 & 5 & -1 \\ -6 & -3 & 8 \\ 9 & 1 & 0 \end{bmatrix}$ , find  $A - B$ .

$$[A] \begin{bmatrix} -8 & 7 & -8 \\ -9 & -5 & -4 \\ 0 & 0 & 11 \end{bmatrix}$$

$$[B] \begin{bmatrix} -8 & 7 & -8 \\ -9 & -5 & 11 \\ 0 & 0 & -4 \end{bmatrix}$$

$$[C] \begin{bmatrix} 8 & -3 & -6 \\ 3 & 1 & -5 \\ -18 & -2 & -4 \end{bmatrix}$$

$$[D] \begin{bmatrix} 8 & -3 & -6 \\ 3 & 1 & -4 \\ -18 & -2 & -5 \end{bmatrix}$$

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8. Compare the quantity in Column A with the quantity in Column B.

$$C = \begin{bmatrix} 4 & -2 & 8 \\ -3 & 5 & -1 \end{bmatrix} \quad D = \begin{bmatrix} 6 & -7 & 5 \\ -8 & -2 & 9 \end{bmatrix}$$

$$E = C + D \quad F = C - D$$

Column A      Column B

$$e_{21} \quad f_{23}$$

- [A] The quantity in Column A is greater.      [B] The quantity in Column B is greater.  
[C] The two quantities are equal.  
[D] The relationship cannot be determined on the basis of the information supplied.

9. Mr. Gabrielli teaches French and Spanish. This chart shows the mean scores on the vocabulary sections and comprehension sections of tests for two different classes of each language.

Mean Scores

Class 2    Class 3

Vocabulary	French	32	39
	Spanish	41	35
Comprehension	French	35	42
	Spanish	39	43

Here are the matrices for the vocabulary scores  $V$  and the comprehension scores  $C$ .

$$V = \begin{bmatrix} 32 & 39 \\ 41 & 35 \end{bmatrix} \quad C = \begin{bmatrix} 35 & 42 \\ 39 & 43 \end{bmatrix}$$

Write the matrix of the combined scores,  $V + C$ .

10. Matrix  $M$  gives the quantities of T-shirts received Monday in two different colors and three different sizes. Matrix  $T$  gives the quantities of T-shirts received Tuesday of the same colors and sizes. Find  $M + T$ .

$$M = \begin{bmatrix} 123 & 452 & 565 \\ 98 & 264 & 401 \end{bmatrix} \quad T = \begin{bmatrix} 158 & 289 & 305 \\ 102 & 341 & 428 \end{bmatrix}$$

11. Find two matrices whose sum is  $\begin{bmatrix} -3 & 2 & 5 \\ 4 & -6 & 1 \end{bmatrix}$ .

[1] B

[2]  $\begin{bmatrix} 11 & 3 \\ 11 & -7 \end{bmatrix}$

[3]  $\begin{bmatrix} -13 & -2 & -10 \\ -10 & 7 & 13 \end{bmatrix}$

[4]  $\begin{bmatrix} -3 & 1 & 2 \\ -2 & -11 & 4 \\ 1 & -9 & 13 \end{bmatrix}$

[5]  $\begin{bmatrix} 54 & -13 \\ -34 & -27 \end{bmatrix}$

[6]  $B - A = \begin{bmatrix} 1.4 & -4.24 & 0.5 \\ -2.6 & -7 & 8.18 \end{bmatrix}$

[7] C

[8] B

[9]  $V + C = \begin{bmatrix} 67 & 81 \\ 80 & 78 \end{bmatrix}$

[10]  $\begin{bmatrix} 281 & 741 & 870 \\ 200 & 605 & 829 \end{bmatrix}$

[11] Answers will vary. Sample:  $A = \begin{bmatrix} 4 & 3 & 1 \\ 2 & 5 & 8 \end{bmatrix}$   $B = \begin{bmatrix} -7 & -1 & 4 \\ 2 & -11 & -7 \end{bmatrix}$