

Practice Worksheet

Content Standard: Graphs and Tables

Student Learning Expectations: Use a simple matrix to represent data and perform the operations of addition, subtraction, and scalar multiplication.

1. Simplify the sum of  $\begin{bmatrix} 2 & -1 \\ 0 & 4 \end{bmatrix} + \begin{bmatrix} -3 & 3 \\ 1 & 0 \end{bmatrix}$ . \_\_\_\_\_

2. Tanya is in charge of ordering for a clothing store. In May, she orders 16 shirts and 40 tank tops. Tanya orders 12 shirts and 50 tank tops in June. In July, she orders 45 tank tops. Write a matrix representing this information.

\_\_\_\_\_

3. Companies often charge a percent of the purchase price for shipping the product to the customer. The store prices at Jayne’s Trophy Shop are shown in the matrix below. In addition, the shop charges 11% of the store price to ship all merchandise. Write a matrix representing the **shipping cost** at Jayne’s Trophy Shop.

**Jayne’s Trophy Shop**  
 Small    Medium    Large

Trophies	$\begin{bmatrix} 5.95 & 9.95 & 16.95 \end{bmatrix}$
Plaques	$\begin{bmatrix} 4.95 & 8.95 & 13.95 \end{bmatrix}$

4. Toni organized the items in her closet according to color and type. She then put the information into the following matrix:

Linen	$\begin{bmatrix} 8 & 3 & 2 \end{bmatrix}$
Wool	$\begin{bmatrix} 5 & 7 & 6 \end{bmatrix}$
Cotton	$\begin{bmatrix} 10 & 12 & 1 \end{bmatrix}$

Toni lends 3 white wool items to a friend and buys 4 red cotton items. What is the new matrix?

\_\_\_\_\_

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

---

6. Tanya's Jewelry Shop sells several types of rings and earrings. The number of items Tanya orders for January is represented in the matrix below.

	January Order		
	Silver	Gold	Pearl
Rings	32	45	40
Earrings	50	42	60

- a. In February, Tanya decides to order 60% of her January order. Write a matrix that represents her February order. Be sure to include a title as well as labels for each row and each column. Show all of your work even if you use mental math or a calculator.
- b. In March, Tanya decides to order  $\frac{5}{4}$  of her January order. Write a matrix to represent her March order. Be sure to include a title as well as labels for each row and each column. Show all of your work even if you use mental math or a calculator.
- c. Using the matrices above, determine Tanya's total orders for the quarter (January, February, and March). For your final matrix, be sure to include a title as well as labels for each row and each column. Show all of your work even if you use mental math or a calculator.