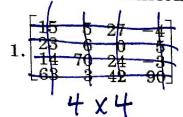
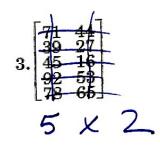
Intro to Matrices Day #2 Practice



State the dimensions of each matrix.



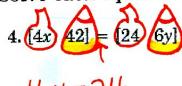


4. A travel agent provides for potential travelers the normal high temperatures for the months of January, April, July, and October for various cities. In Boston these figures are 36°, 56°, 82°, and 63°. In Dallas they are 54°, 76°, 97°, and 79°. In Los Angeles they are 68°, 72°, 84°, and 79°. In Seattle they are 46°, 58°, 74°, and 60°, and in St. Louis they are 38°, 67°, 89°, and 69°. Organize this information in a 4 × 5 matrix. Source: The New York Times Almanace

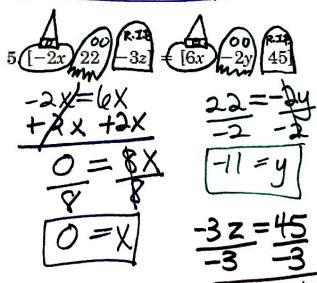
Jan April July October

| | | Columns | | |
|----|----|---------|----|------|
| B | D | LA. | S | S.L. |
| 34 | 54 | 68 | 46 | 38 |
| 56 | 76 | 72 | 58 | 67 |
| 82 | 97 | 84 | 74 | 89 |
| 63 | 79 | 79 | 60 | 69 |

Solve each equation.



$$\frac{4x=24}{4}$$



$$6. \begin{bmatrix} 6x \\ 2y + 3 \end{bmatrix} = \begin{bmatrix} -36 \\ 17 \end{bmatrix}$$

$$7.\begin{bmatrix} 7x - 8 \\ 8y - 3 \end{bmatrix} = \begin{bmatrix} 20 \\ 2y + 3 \end{bmatrix}$$

$$8.\begin{bmatrix} -4x - 3 \\ 6y \end{bmatrix} = \begin{bmatrix} -3x \\ -2y + 16 \end{bmatrix}$$

$$9.\begin{bmatrix} 6x - 12 \\ -3y + 6 \end{bmatrix} = \begin{bmatrix} -3x - 21 \\ 8y - 5 \end{bmatrix}$$

14. TICKET PRICES The table at the right gives ticket prices for a concert. Write a 2 × 3 matrix that represents the cost of a ticket.

| T6 | 12 | 187 |
|----|----|-----|
| [8 | 15 | 22 |

| | Child | Student | Adult \$18 | |
|----------------------------|-------|---------|---------------|--|
| Cost Purchased in Advance | \$6 | \$12 | | |
| Cost Purchased at the Door | \$8 | \$15 | \$22 | |

CONSTRUCTION For Exercises 15 and 16, use the following information.

During each of the last three weeks, a road-building crew has used three truckloads of gravel. The table at the right shows the amount of gravel in each load.

15. Write a matrix for the amount of gravel in each load.

| Week 1 | | Week 2 | | Week 3 | |
|--------|---------|--------|---------|--------|---------|
| Load 1 | 40 tons | Load 1 | 40 tons | Load 1 | 32 tons |
| Load 2 | 32 tons | Load 2 | 40 tons | Load 2 | 24 tons |
| Load 3 | 24 tons | Load 3 | 32 tons | Load 3 | 24 tons |

.6. What are the dimensions of the matrix?

perform the indicated matrix operations. If the matrix does not exist, write impossible.

$$\begin{bmatrix} 2 & -1 \\ 3 & 7 \\ 14 & -9 \end{bmatrix} + \begin{bmatrix} -6 & 9 \\ 7 & -11 \\ -8 & 17 \end{bmatrix}$$

$$2. \begin{bmatrix} 4 \\ -71 \\ 18 \end{bmatrix} - \begin{bmatrix} -67 \\ 45 \\ -24 \end{bmatrix}$$

$$3. \ -3 \begin{bmatrix} -1 & 0 \\ 17 & -11 \end{bmatrix} + 4 \begin{bmatrix} -3 & 16 \\ -21 & 12 \end{bmatrix}$$

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

Use $A = \begin{bmatrix} 4 & -1 & 0 \\ -3 & 6 & 2 \end{bmatrix}$, $B = \begin{bmatrix} -2 & 4 & 5 \\ 1 & 0 & -9 \end{bmatrix}$, and $C = \begin{bmatrix} 10 & -8 & 6 \\ -6 & -4 & 20 \end{bmatrix}$ to find the following.

$$7.A-B$$

$$8.A - C$$

9.
$$-3B$$

10.
$$4B - A$$