

1.  $A = \begin{bmatrix} 2 & -3 & 4 \\ 5 & 0 & -6 \\ 7 & 2 & -8 \end{bmatrix}$       [A] 7      [B] 5      [C] 0      [D] 2      [E] -6

Find  $a_{23}$  of matrix A.

2. Identify the indicated element of the matrix.      [A] 23      [B] 27      [C] -21      [D] 24

$$\begin{bmatrix} 7 & 13 & 20 & 18 \\ 1 & 23 & -10 & -21 \\ 11 & 27 & -20 & -29 \end{bmatrix}; a_{24}$$

3. Identify the indicated element of the matrix.      [A] -6      [B] -9      [C] -19      [D] 21

$$\begin{bmatrix} -3 & -19 & -12 & -9 \\ -6 & 22 & -1 & 9 \\ -18 & -7 & 24 & 3 \end{bmatrix}; a_{21}$$

4. Identify the indicated element of the matrix.      [A] -23      [B] -14      [C] -27      [D] 12

$$\begin{bmatrix} -14 & -23 & 17 & 19 \\ -27 & 8 & -22 & -25 \\ 14 & 25 & -11 & 2 \end{bmatrix}; a_{12}$$

5. This table shows data on heating oil use in three adjacent buildings on Spring Street.

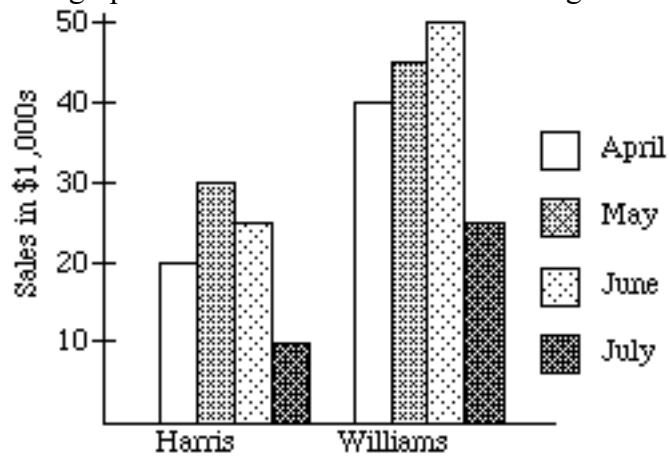
Heating Oil Use

Number of Gallons Used

Address	1997	1998
152 Spring St.	1215	1093
154 Spring St.	982	975
156 Spring St.	1562	1437

Represent the data in the table in a matrix.

6. This graph shows information about sales figures for two sales representatives over four months.



Represent the data in the graph in a matrix.

7. This data gives the air mileage between some cities.

	Boston	Chicago	Dallas	Denver	Los Angeles
Boston	–	851	1551	1769	2569
Chicago		–	803	920	1745
Dallas			–	663	1240
Denver				–	831
Los Angeles					–

Complete the chart and write a mileage matrix for the data.

8. Explain how a  $2 \times 3$  matrix is different from a  $3 \times 2$  matrix.

Precalculus Practice N.VM.C.6: Matrices 1

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[1] E

[2] C

[3] A

[4] A

[5] 
$$\begin{bmatrix} 1215 & 1093 \\ 982 & 975 \\ 1562 & 1437 \end{bmatrix}$$

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$$\begin{bmatrix} 20,000 & 30,000 & 25,000 & 10,000 \\ 40,000 & 45,000 & 50,000 & 25,000 \end{bmatrix}$$
 or

[6] 
$$\begin{bmatrix} 20,000 & 40,000 \\ 30,000 & 45,000 \\ 25,000 & 50,000 \\ 10,000 & 25,000 \end{bmatrix}$$

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[7] 
$$\begin{bmatrix} 0 & 851 & 1551 & 1769 & 2569 \\ 851 & 0 & 803 & 920 & 1745 \\ 1551 & 803 & 0 & 663 & 1240 \\ 1769 & 920 & 663 & 0 & 831 \\ 2569 & 1745 & 1240 & 831 & 0 \end{bmatrix}$$

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[8] A  $2 \times 3$  matrix has 2 rows and 3 columns. A  $3 \times 2$  matrix has 3 rows and 2 columns.