

Real-Life Application: When Will I Ever Use This?

For use with pages 86–91

Record Keeping

You are in charge of keeping track of all the yearbooks that are sold. In order to keep the data organized, you decide to use matrices. Not only is this helpful now, it will make the task of distribution easier. You separate the sales into two distinct matrices: faculty and students.

In Exercises 1-3, use the following information.

Students buying yearbooks: Freshmen – 26 boys and 39 girls

Sophomores – 29 boys and 27 girls

Juniors – 32 boys and 43 girls

Seniors – 44 boys and 68 girls

Faculty buying yearbooks: Freshmen teachers – 7 women and 4 men

Sophomore teachers – 4 women and 5 men

Junior teachers – 5 women

Senior teachers – 12 women and 5 men

1. Write and label matrices showing the number of yearbooks sold.
2. Find the sum of the two matrices you found in Exercise 1.
3. Explain what the data represent in the matrix you found in Exercise 2.

In Exercises 4 and 5, use the following information.

You and some friends are in charge of refreshments for the end of year field day. You have made a deal with a local store to donate various drinks to the school in exchange for sole advertising privileges. The only other condition is that any unopened containers are to be returned to the store. The store delivers 40 one-gallon containers of water and 25 one-gallon containers of juice. Also delivered were 128 individual water bottles, 80 individual sports drink bottles, and 192 individual juice boxes. Finally, 10 powdered sports drink containers and 6 powdered juice containers are delivered. You keep an accurate account of how much of the drinks are consumed. Thirty-two one-gallon containers of water, 18.25 one-gallon containers of juice, 104 water bottles, 71 sports drink bottles, 156 juice boxes, 7.5 containers of powdered sports drink, and 3.75 containers of powdered juice are consumed.

4. Write and label matrices to organize the amount of drinks delivered and consumed.
5. Write a matrix that shows the number of unopened containers that will be returned to the store.