

2.10 Taken Out of Context

A Practice Understanding Task



Write a shopping scenario similar to those in “Shopping for Cats and Dogs” to fit each of the following systems of equations. Then use the elimination of variables method you invented in “Can You Get to the Point, Too” to solve the system. Some of the systems may have interesting or unusual solutions. See if you can explain them in terms of the shopping scenarios you wrote.

1.
$$\begin{cases} 3x + 4y = 23 \\ 5x + 3y = 31 \end{cases}$$

2.
$$\begin{cases} 2x + 3y = 14 \\ 4x + 6y = 28 \end{cases}$$

3.
$$\begin{cases} 3x + 2y = 20 \\ 9x + 6y = 35 \end{cases}$$

4.
$$\begin{cases} 4x + 2y = 8 \\ 5x + 3y = 9 \end{cases}$$

Three of Carlos’ and Clarita’s friends are purchasing school supplies at the bookstore. Stan buys a notebook, three packages of pencils and two markers for \$7.50. Jan buys two notebooks, six packages of pencils and five markers for \$15.50. Fran buys a notebook, two packages of pencils and two markers for \$6.25. How much do each of these three items cost?

Explain in words or with symbols how you can use your intuitive reasoning about these purchases to find the price of each item.

