

SHOPPING

(Systems of Linear Equations – Standard Form)

Lesson:

A clothing store sells jeans for one price and tee shirts for another price. Sam purchases two pair of jeans and six tee shirts for \$60. Jose purchases four pairs of jeans and three tee shirts for \$75.

1. Write a system of equations that could be used to determine the cost of one pair of jeans (x) and the cost of one tee shirt (y).
2. Solve each equation for y . Enter the equations into your calculator.

Teacher Tip:

Some calculators will not accept an equation written in standard form. It may be necessary to discuss with the students how to transform the equations into an appropriate form for the calculator they are using.

3. Set up an appropriate graphing window, and then graph the equations.

Teacher Tip:

At this point stop and discuss with your students what makes an appropriate window. Discuss the mathematics behind graphing equations just as if you were graphing it on paper. Discuss the domain and range of the graphs. Help students to see the equations in different windows and understand the need for an appropriate window.

4. Use your calculator to find the point of intersection of the two lines. (CLG: 1.2.3)

Teacher Tip:

Discuss the meaning of the point of intersection of the two equations in the context of the problem. Also discuss different ways, other than graphing, that a solution to a system of equations may be found.

5. What is the meaning of this point of intersection in the context of this problem? Use mathematics to justify your answer.
6. How much does each pair of jeans cost? Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.
7. How much does each tee shirt cost? Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.