

# Homework 19

# A Charity Rock

## Part I: Solving Systems

Solve each pair of equations.

1.  $5x + 2y = 11$  and  $x + y = 4$
2.  $2p + 5q = 15$  and  $6p + 15q = -29$
3.  $3a + b = 4$  and  $6a + 2b = 8$

## Part II: Rocking Pebbles

At concerts given by the group Rocking Pebbles, some of the tickets sold are for reserved seats and the rest are general admission.

For a recent series of two weekend concerts, the Pebbles pledged to give their favorite charity an amount equal to half of what was paid for

general-admission tickets. After the concerts, the charity called the Pebbles' manager to find out how much money the charity would be getting.

The manager looked up the records. She found that for the first night, 230 reserved-seat tickets and 835 general-admission tickets were sold. For the second night, 250 reserved-seat tickets and 980 general-admission tickets were sold.

The manager saw that the total amount of money collected for tickets was \$23,600 for the first night and \$27,100 for the second night, but she didn't know the prices for the two different kinds of tickets. (The prices were the same at both concerts.)

Figure out what the two ticket prices were, and use that information to tell the manager how much the Pebbles will give to the charity. As part of your work on this problem, set up a pair of linear equations. Then solve this system in whatever way you like, such as using algebra, graphs, or guess-and-check.

