

1. Solve each of the following systems by the Method of Elimination. These two should be relatively easy. Make sure to understand why.

(a) $x - y = 7$

$$x + y = 5$$

(b) $2x + 5y = 3$

$$-2x - y = 5$$

2. Solve each of the following systems by the Method of Elimination. These will be slightly harder than #1 because you will have to alter one of the equations by multiplication.

(a) $x - y = 15$

$$4x + 2y = 30$$

(b) $2x + 3y = 17$

$$5x + 6y = 32$$

3. Solve each of the following systems by the Method of Elimination. In each case you will likely want to alter both equations by multiplication.

(a) $2x + 3y = 16$

$$5x - 2y = 21$$

(b) $6x - 7y = 25$

$$15x + 3y = 42$$

4. Shana bought sodas and popcorn for the movies. Sodas cost \$3 each and popcorn cost \$4 per bag. Shana bought 7 things from the concession, all either sodas or bags of popcorn. Shana spent a total of \$26. Write a system of equations involving the number of sodas, s , and the bags of popcorn, b . Solve the system to see how many of each Shana bought.

R1. As Evin is driving her car, she notices that after 1 hour her gas tank has 7.25 gallons left and after 4 hours of driving, it has 3.5 gallons of gas left in it.

(a) Represent this information as two coordinate pairs in the form (h, g) , where h is the number of hours driven and g is the gallons of gas left.

(b) Find the slope between these two points. Using proper units, interpret this slope.

(c) Assuming the relationship between h and g is linear, find an equation for g in terms of h .

(d) According to this equation, after how many hours of driving would Evin run out of gas?

1. (a) $(6, -1)$
(b) $(-3.5, 2)$

2. (a) $(10, -5)$
(b) $(-2, 7)$

3. (a) $(5, 2)$
(b) $(3, -1)$

4.
 $s + b = 7$
 $3s + 4b = 26$
 $s = 2$
 $b = 5$

R1. (a) $(1, 7.25)$ and $(4, 3.5)$
(b) -1.25 gallons per hour
(c) $g = -1.25h + 8.50$
(d) 6.8 hours