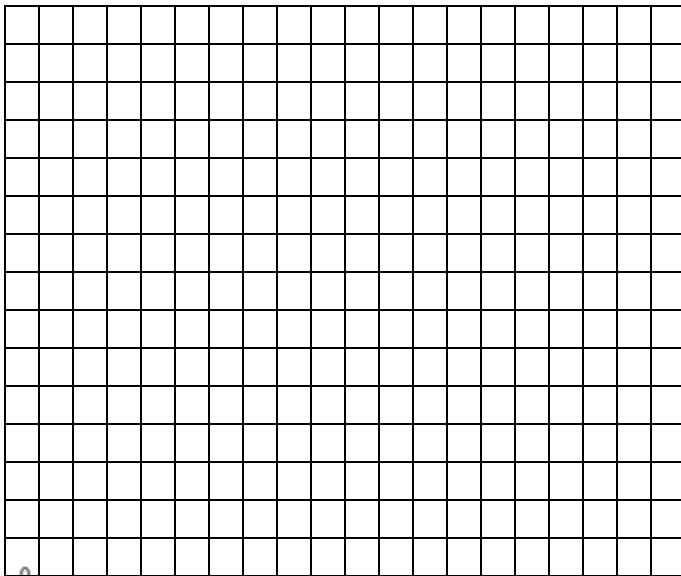


EXAMPLE 1

Katie is looking at banquet halls for her parents' anniversary party. Moonlight Hall charges a flat fee of \$500 plus \$50 per guest. Riverside Hall charges \$1000 plus \$25 per guest.

*Let y represent the total cost.
Let x represent the number of guests.*

- a) Write an equation to represent the total cost for Moonlight Hall.
- b) Write an equation to represent the total cost for Riverside Hall.
- c) Graph both lines to find the number of guests for which the total cost is the same.

**EXAMPLE 2**

Tickets for a school play cost \$5 for adults and \$3 for children. A total of 800 tickets were sold and total sales were \$3600.

*Let x be the number of adult tickets sold.
Let y be the number of child tickets sold.*

- a) Write a system of linear equations to represent this information.
- b) Solve this system by SUBSTITUTION.
- c) How many adult tickets were sold? How many child tickets were sold?

PROBLEM 1

For a basketball tournament, Marcus orders T-shirts for all the participants. The medium-sized shirts cost \$4 per shirt and the large-sized shirts cost \$5 per shirt. Marcus orders a total of 70 shirts. He spends \$320.

*Let x be the number of medium-sized shirts sold.
Let y be the number of adult-sized shirts sold.*

- a) Write a system of linear equations to represent this information.
- b) Solve this system by ELIMINATION.
- c) How many medium-sized shirts were ordered? How many large-sized shirts were ordered?

PROBLEM 2

Sam plays hockey. He earns 1 point for every goal he scores and 1 point for every assist. This season he earned 63 points. He scored 17 fewer goals than assists.

*Let x be the number of goals he scored
Let y be the number of assists he had.*

- a) Write a system of linear equations to represent this information.
- b) Solve this system by SUBSTITUTION.
- c) How many goals did Sam score? How many assists did he have?

PROBLEM 3

Nina wants to hire a truck to do some moving. Athena's Garage charges \$80 for the day plus \$0.22/km. City Truck Rental charges \$100 per day and \$0.12/km.

*Let y represent the total cost.
Let x represent the number of kilometres.*

- a) Write an equation to represent the total cost for Athena's Garage.
- b) Write an equation to represent the total cost for City Truck Rental.
- c) Solve this system by SUBSTITUTION.
- d) For how many kilometres would the cost from either company be the same?

PROBLEM 4

To join Jungle Gymnastics Club, Sonja will pay a monthly fee of \$25 and an initiation fee of \$50. If she chooses to join Brant Gymnastics Club, she will pay an initial fee of only \$100 but \$15 per month.

*Let y represent the total cost.
Let x represent the number of months.*

- a) Write an equation to represent the total cost for Jungle Gymnastics Club.
- b) Write an equation to represent the total cost for Brant Gymnastics Club.
- c) Solve this system by GRAPHING.
- d) For how many months, would cost of a gym membership at either club be the same?

PROBLEM 5

A bank teller has a total of 125 bills in fifties and hundreds. The total value of the money is \$8500.

Let x represent the number of \$50 bills.

Let y represent the number of \$100 bills.

- a) Write a system of linear equations to represent this information.
- b) Solve this system by ELIMINATION.
- c) How many \$50 bills does the teller have? How many \$100 bills does the teller have?

BONUS

Sarah can paint a fence in 2 hours. Wesley can paint the same fence in 3 hours. If, they decide to work together, how long (in hours) will it take Sarah and Wesley to paint the fence?