

Systems of Equations: Application Problems

Today's Learning Targets:

6.8 I can write & solve a system of equations,
Comparing & Break Even.

"Gym membership problems"

Compare/Equal

Planet Fitness charges a \$40 registration fee plus \$3 per visit.

Snap Fitness charges \$60 to join plus \$2 per visit.

After how many visits will the costs be the same?

- A) Declare your variable.
- B) Write one equation for one company.
- C) Write an equation for the other company.
- D) Solve



Compare/Equal Break Even Problems... (cost vs. sales)

Candy's Cookie Company has to pay \$300 a day for their factory and equipment. Then it costs \$2 to make every batch of cookies. They sell cookies for \$5 a batch.

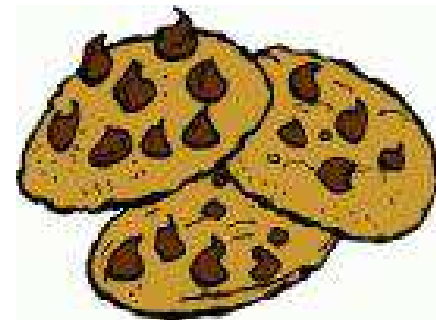
How many batches of cookies must they sell to break even?

A) Declare your variable.

B) Write expression for costs.

C) Write expression for sales.

D) Solve



Pro Painters charges \$135 for supplies and \$15 per hour while painting.

Painting Experts doesn't charge for supplies, but charges \$45 per hour.

When will their costs be equal?

- A) Declare your variables:
- B) Write an expression for each company.
- C) Solve

If you estimate it will take 3 hours to paint, which company should you choose?



You Try!

Cutler-Hammer makes electrical panels. They have a huge factory that costs \$27,000 to run a month. It costs them \$130 to make an electrical panel that sells for \$320.

How many must they sell to break even?



You are deciding which apartment complex to move into for your junior year of college.

College Condos: \$575 for security deposit & \$450 per month.

University Units: \$400 for security deposit & \$475 per month.

When will the costs be equal?

- A) Declare your variables:
- B) Write an expression for each company.
- C) Solve

