Solving Systems of Equations Word Problems

Example 1:

Amina and Shira go to Yummy Donuts to get treats for their friends. Amina buys 5 donuts and 3 cups of coffee and spends $6. Shira buys 3 donuts and 6 cups of coffee and spends $8.85. What is the price for one donut and the price for one cup of coffee?

   a. Define the variables that you will use to solve this problem.

   b. Write an equation to describe Amina's purchase and an equation to describe Shira's purchase.

   c. Use any method to solve the system of equations.

   d. State your answer to the question in a complete sentence.

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Example 2:

Daria and Ilana are running a race. Ilana runs at 10 feet per second and starts at the starting line. Daria runs at 5 feet per second and has a 20 foot head start. When and where will Ilana overtake Daria?

    a. Define the variables that you will use to solve this problem.

    b. Write an equation to describe Daria's distance and time and an equation to describe Ilana's distance and time.

    c. Use any method to solve the system of equations.

    d. State your answer to the question in a complete sentence.

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Practice 1:

Michael and Jim are buying snacks for a party. Michael buys 2 bags of chips and 1 jar of salsa and spends $8.90. Jim buys 4 bags of chips and 3 jars of salsa and spends $19.70. What is the price for one bag of chips and the price for one jar of salsa?

    a. Define the variables that you will use to solve this problem.

    b. Write an equation to describe the price of Michael's purchase an equation to describe Jim's purchase.

    c. Use any method to solve the system of equations.

    d. State your answer to the question in a complete sentence.

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Practice 2:

Sandra and Julie are racing on cross-country skis. Julie starts at the starting line and skis at a rate of $6\frac{2}{3}$ meters per second. Sandra skis at $3\frac{1}{3}$ meters per second and has a head start of 30 meters. When will Julie overtake Sandra?

    a. Define the variables that you will use to solve this problem.

    b. Write an equation to describe Julie's distance and an equation to describe Sandra's distance.

    c. Use any method to solve the system of equations.

    d. State your answer to the question in a complete sentence.