

Date:

Title:

(A) **Lesson Objectives:**

- a. Algebraically, using either substitution or elimination, determine the intersection point of two lines and verify the intersection point in questions that show the applications linear systems through real world applications
- b. Understand that linear systems can be solved graphically, numerically, or algebraically

(B) **Opening Investigation:**

- a. Which method would you use to solve the linear system defined by $y = -2x + 5$
 $y = -\frac{1}{3}x + 2$. Why?

- b. Which method would you use to solve the linear systems defined by $23x - 17y = 112$
 $-11x + 19y = -37$. Why

- c. Which method would you use to solve the linear system defined by $3x - 8y - 24 = 0$
 $x + 4y - 2 = 0$. Why

(C) **Further Examples for Classwork** → Solve and verify the following linear systems:

Georgia is training for the upcoming track & field season. She needs to design a daily 45 minute workout using a combination of a stationary bike and a treadmill. To be in top shape, she should burn 400 calories in her workout. On a bike, she burns 8 cal/min and on the treadmill she burns 10 cal/min. How many minutes should she train on each piece of equipment?

As the owner of a banquet hall, you are in charge of catering a reception. There are 2 dinners: a chicken dish that costs \$16 and a beef dish that costs \$18. The 300 wedding guests have ordered the dinners in advance and the total cost to prepare the dinners is \$5256. How many of each type of dinner are you preparing?

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Each spring, the conservation authority stocks the local lake with 10,000 bass and perch. If there were three times as many bass and twice as many perch, there would be 22,000 fish added to the lake. How many of each type of fish make up the 10,000?

Mike has \$9.85 in dimes and quarters. If he has 58 coins altogether, how many dimes and quarters does he have?

(A) **Homework/Resources**

Classwork from M9, MYP4 text, Ex17B, Q2,3, 4,5,7,8,10

- Help from OnlineMathLearning with word problems → <http://www.onlinemathlearning.com/coin-problems.html>
- <http://www.onlinemathlearning.com/algebra-age-problems.html>