Section 2.3 & Chapter 7 Suggestions:

<u>**Section 2.3**</u> **Systems of Linear Equations in Two Variables**

Goals for students:
- Write a system of linear equations in two variables given a real world scenario

The focus today is on writing a model given a real world scenario. You might ask students to work in groups on problems # 47 – 57 on p. 136.   You might have to guide them, but let them struggle as they write the systems. Save the actual solving of systems for tomorrow's class.

Suggested Homework: ***MLP:*** None for today. Ask students to finish setting up what we started in class.

<u>**Section 2.3**</u> **Systems of Linear Equations in Two Variables**

Goals for students:
- Solve a system of linear equations in two variables using the substitution, elimination, and graphical methods.

Today's lesson focuses on the skill of solving linear systems of two equations in two unknowns. Many of our students are familiar with these methods. You might begin with the graphical method, then discuss its advantages (visual display) and disadvantages (hard to be accurate with hand sketch, graphing technology not always available).

You might ask them what they know about the algebraic methods. Chances are someone can guide you through the solutions. Discuss advantages and disadvantages of each method. Point out to your students the excellent worked examples in the handbook on pp. 219-226.

You might then solve some of the systems they wrote yesterday in class (and finished for homework).

Suggested Homework: ***MML:*** HW 2.3

<u>**Section 7.1**</u> **Systems of Linear Equations in Three Variables**

Goals for students:
- Write a system of linear equations in three variables given a real world scenario

The focus today is on writing a model given a real world scenario. You might give students a problem like #27 on p. 506 and ask them to write the model. (You'd obviously have to write this on the overhead, on the chalkboard, or have a print copy since the book already gives the system.). Then ask them to work in groups on problems 29 - 34. Near the end of class, discuss the models, asking students to come to the board to show their work. Save the actual solving of systems for tomorrow's class.

Suggested Homework: ***MLP:*** None for today. Ask students to finish setting up what we started in Class.

<u>**Section 7.1**</u> **Systems of Linear Equations in Three Variables**

Goals for students
- Solve a system of linear equations in three variables using left to right elimination

One suggestion to motivate the procedure is to show students a system like #1- 4 on p. 505. They could easily solve for *y* in the second equation, then for *x* in the first. Thus, *wouldn't it be nice if we could get any system in this form?*   Then proceed with the algorithm. The book essentially uses row operations as they foreshadow using matrices, a topic covered in the next section.

Suggested Homework: MML: HW 7.1

Section 7.2 is optional.

<u>**Section 7.2**</u> **Matrix Solution of Systems of Equations**
Goals for students
- Solve a system of linear equations in three variables using matrices

Students will probably have lots of questions from last night's homework and you may need to spend a significant portion of today's class review it. Particularly, you will need to review those with non-unique solutions.

Suggested Homework: MML: None. Ask students to solve #1 – 21 on p. 518

<u>**Section 7.2**</u> **Matrix Solution of Systems of Equations, cont'd**

Goals for students:
- Write a matrix model for as real world scenario, then solve it using row operations

The emphasis is on writing models today, unless of course, you need to reinforce the algorithm for solving.

Suggested Homework: MLP: None. Ask students to solve # 33- 43 on p.p. 519 – 520.

...whew....we made it.