**Chapter 3 Exercise Help**

3.1 - **Quadratic**

* Calculate the determinant first. Then, based on the determinant's value:
  + Calculate the two roots (if determinant is positive),
  + Calculate the one root, (if determinant is zero),
  + Output that there is "no solution" (if determinant is negative).
* You can use the code from your formulas program, where you previously calculated the quadratic formula.

3.3 - **Cramer's Rule**

* First determine if ad-bc is zero. If it is, output, "The equation has no solution.". Otherwise, calculate the answer based on the formula given in the book.

3.5 - **FutureDate**

* Declare two String variable - StartDay and EndDay, which will hold the actual name of the day of the week. Use an if statement to assign StartDay the proper value ("Monday", for example).
* After determining the correct end date, assign EndDay its appropriate value. Use these in your output statement.
* You will also likely need to make use of the modulus function in this program. ( % )

3.9 - **ISBN**

* Make sure you are accepting a single input from the user, not 9 separate values.
* Use the / and % operators to pull the value of each place value of the nine digit number, then use it to assign values to d1 to d9. Calculate d10.
* Output each variable individually, using *System.out.print* (not *println*) to keep the output on a single line.

3.11 - **DaysInMonth**

* Easiest way is lots of if statements.
* You will need two different if statements for February, since it gets an extra day in a leap year.

3.19 - **TrianglePerimeter**

* Use integer variables for the triangle side lengths.
* This one might be easiest if you assign a boolean variable called *valid* and assign it a value of true;
* Check the three possible ways that the input would be consider invalid and change the valid variable to false if indeed any of the side lengths is invalid.
* Use an if statement at the end to either output the perimeter, or "invalid" (lower case)

3.21 - **Zeller's Congruence**

* Adjust the month and year (for January and February; from user) before you calculate year and month (j and k)
* Watch your order of operations your formula

3.22 - **PointInCircle -** Use double variables