Lab 08 TA instructions

The first page is a copy of the big programming problem from the midterm. About 35 students got it correct during the midterm. Indicate that if you got the problem during the exam, you would know it and you should try to get the bonus lab credit by doing the level 1 or level 2 problem at the bottom. Otherwise, this lab is an opportunity to make up 10 of the 30 points on the exam which were for the program logic after showing good code for each step.

Start by explaining (using the whiteboard) 3 strategies:

1. **Strategy for the exam question:** First, blacken each Pixel in a column by coding a simple (not nested) for loop that runs through the y coordinates. Details are written on the worksheet more than we did before. Second, use a loop separate from the first to blacken the row. **DRAW 2 pictures!**
   The lab asks them to add TWO methods to the Picture class: One without parameters (which is right from the exam) and a second with parameters. So the lab will hopefully teach those who haven't yet got how to add and call a parametrized method to a class

2. **Strategy for drawing an X inside a square:** Basically the same as drawing the cross-hairs, except the coordinates of the Pixels to blacken have the form (x, x) (relative to the given center) and (x, sidelength-x-1) **DRAW A PICTURE!!**

3. **Strategy for drawing an X inside a non-square rectangle:** This is a challenge! Show them the picture on the blackboard. There are two cases: tall/skinny and short/fat. In the tall case, the loop should be on y. Sometimes there will be MORE THAN ONE Pixel in a column. For each y, make the computer calculate (using doubles) the corresponding value of x. Then, cast the floating value to get the integer for the x coordinate.