Coms 331 **Rasterizing Lines - Part 2** **Fall 2007**

Homework 33

In these exercises, let $A = (0, 0)$ and $B = (10, 7)$.

1. Find $W = B_x - A_x$ and $H = B_y - A_y$.
2. Find $2H$ and $2(W - H)$.
3. Write and simplify the function $F(x, y) = -2W(y - A_y) + 2H(x - A_x)$.
4. Initialize $x = A_x, y = A_y$, and $F = 3H - 2W$.
5. Use the algorithm to fill in the F, y, and Δy values of the following table.

x	y	F	Δy
0			
1			
2			
3			
4			
5			
6			
7			
8			
9			

6. On a sheet of graph paper, shade in the rasterized line.
7. On the same sheet of graph paper, use a ruler to draw the straight line from $(0, 0)$ to $(10, 7)$. Do the shaded squares appear to be the ones that are closest (vertically) to the line?