University of California at Berkeley College of Engineering Department of Electrical Engineering and Computer Science

EECS150, Spring 2010

Quiz 7 March 12^{th} , 2pm

1.	We are using a	400x200 pixel o	display operating	at 10 FPS	(frames per second)
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		, what is the		

(b) The display has blanking intervals where the beam must go across the screen to start the next line or frame. Each horizontal line is scanned left-to-right, from top line to bottom line. The horizontal blanking interval is like writing additional invisible pixels to the end of the line, and the vertical blanking interval is like writing additional invisible lines to the end of the frame. It turns out that the horizontal blanking interval is 10μ s. The vertical blanking interval is 10μ s. The PixelClock is a clock used to synchronize sending pixels to the video interface. One pixel is sent every PixelClock cycle (except for during blanking intervals). What frequency should the PixelClock be for the $400x200\ 10$ -FPS display?

- (c) i. What is the horizontal blanking interval in terms of number of pixels? If you have no answer for (b), write an equation.
 - ii. What is the vertical blanking interval in terms of number of lines?