Calc II Problem sheet

Thursday, June 17

1. Let $f(x) = x(2-x)$. We wish to find the arc length of the graph of f over $[0, 2]$.
   (a) Explain why you're certain that the length is larger than $2\sqrt{2}$.
   (b) Setup an integral that represents the length.
   (c) Find a numerical estimate to the length.
2. Suppose we take the region stuck between the graph of $f(x) = x(2-x)$ and the x-axis and spin it around the x-axis. Find the volume of the resulting solid of revolution.