**1.** A Calculus SWAT team is brought in to solve a particularly intractible problem. The graph to the right shows the number of Calculus Experts working on a two-day problem, as a function of the number of hours since the 8AM beginning of the first work day. They are paid \$50/hour for hours in a regular 8 hour work day (8AM–4PM), and \$75/hour for overtime (all other hours). How much does it cost to solve this Calculus problem? Be sure it is clear how and why you obtain the answer you do. (3 points)
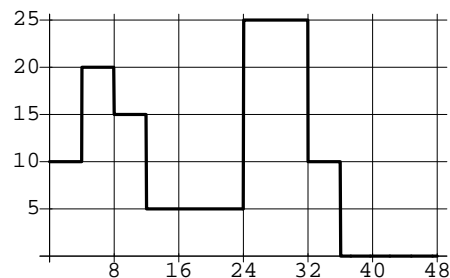
2. Suppose that the average American's salary increases at a rate of $r(t) = \$40(1.002)^t$ dollars/month, with t measured in months. What is the average rate of increase in the average American's salary over one year? (3 points)

3. A continuous function $f'(x)$ makes a wrong turn and ends up in the last question of a quiz, where a local calculus student notes that it has the following values.

$x =$	0	2	4	6	8	10
$f'(x) =$	0	-2	-4	0	16	24

Sketch a graph of the corresponding function $f(x)$, if you know that $f(4) = 8$. (4 points)