

**Quiz 6      Calculus 1      7/26/2005**

Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. A three-pack-a-day smoker tries improving his health by going for a run. He starts out fast, but slows down gradually before collapsing in a gasping heap along the roadside. His speed at various instants is given in the table below. Give a good lower bound estimate for the distance he covers in the first 60 seconds of his run.

Time	Speed
0	20 ft/sec
15	16 ft/sec
30	10 ft/sec
45	6 ft/sec
60	2 ft/sec

2. Given the following profit estimates reported by the company FadDiets.Com, give a reasonable overestimate of the total profit the company can expect during the year 2006.

Quarter	Expected Profit
10/2005	\$5 million/month
1/2006	\$7 million/month
4/2006	\$4 million/month
7/2006	\$2 million/month
10/2006	\$6 million/month

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