

Math 2415

Homework on 13.3

1. Calculate the length of the curve $\mathbf{r}(t) = \cos 4t\mathbf{i} + \sin 4t\mathbf{j} + 2t^{3/2}\mathbf{k}$ for $0 \leq t \leq 2\pi$.
2. Find the length of the curve $\mathbf{r}(t) = t \sin t\mathbf{i} + t \cos t\mathbf{j} + \sqrt{3}t\mathbf{k}$ for $0 \leq t \leq 1$. Also, sketch this curve.