

Math 231 Worksheet 6

1. Find f if $f'(x) = x^2 - \sin x$ and $f(0) = 0$.

2. A particle is moving with the data

$$a(t) = 2, \quad s(0) = \frac{1}{6}, \quad s(1) = \frac{1}{6}.$$

(a) Find the position function $s(t)$.

(b) Find the displacement of the particle during the time interval $0 \leq t \leq 1$.

(c) Find the distance traveled during the time interval $0 \leq t \leq 1$.