

# Homefun 20

## HomeFUNDamental Theorem of Calculus

MATH 150  
10 points

**Directions:** Work in groups of 2 to 4 in class and then finish outside of class as necessary. Each group should submit **ONE** solution page for the group. (Be sure everyone's name is on it!)

The purpose of this assignment is to practice working with the Fundamental Theorem of Calculus.

1. A car travels at a velocity modeled by  $v(t) = 0.66t^2$  m/s for  $t$  from 0 to 10 seconds. How far does the car travel in this time? (This is the problem I posed on day one of class. We are finally ready to solve it!)
2. Compute each definite integral.

(a)  $\int_0^3 e^{0.5x} dx$

(b)  $\int_0^\pi \sin(x) dx$

(c)  $\int_{-1}^1 \frac{1}{1+x^2} dx$