

Calculus Session 3 Problem Set Writeup

Suppose a checking account has a balance $f(t) = -5t^2 + 60t + 120$. The derivative of this function is $f'(t) = -10t + 60$.

1. The value of $f'(1) = 50$. The rate of change for February will be 40. So the balance of the account will increase even as the rate of that increases gets smaller.
2. The value of $f'(10) = -40$. The rate of change has moved into the negatives so the account balances is going down.
3. The account balance is highest at the point when the rate of change hits zero. This happens in June.