Month	Balance ($)
January	175
February	220
March	255
⋮	⋮

Checking Account Balances

The derivative of a function $f(t)$ describes how the function's output changes as the value of t changes.

Suppose that a checking account has balance $f(t) = -5t^2 + 60t + 120$ dollars t months into the year, and that the derivative (rate of change) of the account balance is given by $f'(t) = -10t + 60$.

1. Compute $f'(1)$. If $f'(1)$ is approximately equal to the rate of change of the account balance during the month of January, will the account balance in February be greater or less than the balance in January?

2. Compute $f'(10)$. Does the account balance continue to increase throughout the year? How do you know?

3. During which month is the account balance greatest? What is the value of $f'(t)$ at this time?

18.01SC Single Variable Calculus
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