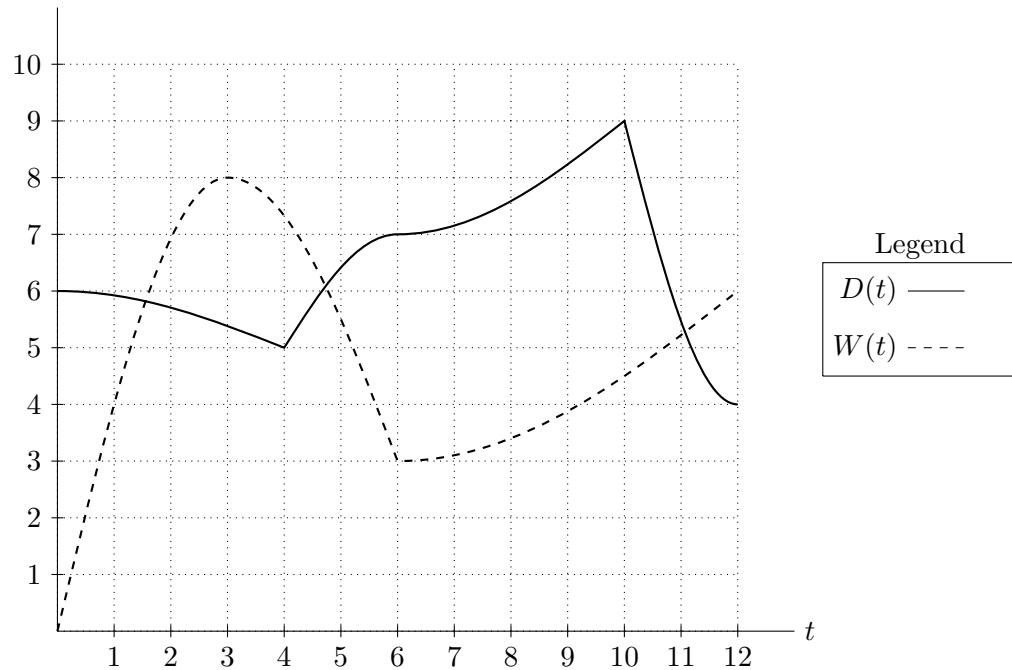


4. [9 points] A Swiss bank is constantly receiving deposits and withdrawals of money. Let $D(t)$ be the deposit rate (the rate at which money is going into the bank) and $W(t)$ be the withdrawal rate (the rate at which money is being taken out of the bank), both in millions of dollars/month, where t is measured in months since January 1st 2013. Suppose that on January 1st 2013 the bank has \$50 million. A graph of the two functions is shown below.



- a. [4 points] Write an expression that gives the amount of money in the bank at time t . Include units.
- b. [3 points] Write an expression that gives the average rate of change of the amount of money in the bank, in millions of dollars per month, during the year 2013.
- c. [2 points] Estimate the date in 2013 when the bank has the most money in it. You do not need to show your work.