Name: _____

You have five minutes to complete the following problems.

A person deposits money into an account at a continuous rate of $6000 per year, and the account earns interest at a continuous rate of 7% per year.

1. Write a differential equation for the balance in the account, B, in dollars, as a function of time, t, in years.

2. Use the differential equation to calculate dB/dt if $B = 10,000$ and if $B = 100,000$. Interpret your answers.

3. If the initial balance in the account is $10,000, estimate the balance in the account after 1, 2, and 3 years.

t (years)	0	1	2	3
$B(t)$ (dollars)				