

Book:- TECHNICAL CALCULUS.  
WITH GEOMETRY.

①

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① A deposit of "\$" dollars that earns 100% annual interest compounded continuously leaves a balance of  $P = 500e^t$  dollars after  $t$  years.

ⓐ what will, — An amount of \$5000 grow to after 15 years at 10% Annual interest compounded continuously?

ⓑ Determine the rate at which  $P$  is growing.

② An inductance " $L$ " and a resistance " $R$ " are in series with a battery of " $E$ " volts.

The current is given by

$$I = \frac{E}{R} (1 - e^{-Rt/L})$$

find an expression for the time rate of change of the current.