

## Review Ex 1-A

Given the accumulation function

$$a(t) = 1 + \sqrt{t},$$

find the annual effective interest rate that is appropriate between  $t=2$  and  $t=3$ .

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Review Ex 1-B A deposit of 1 will accumulate to 2.7183 in 10 years with a force of interest

$$\delta_t = \begin{cases} kt & 0 < t \leq 5 \\ \frac{1}{25}kt^2 & 5 < t \leq 10. \end{cases}$$

Find k.

## Review Ex 1-C

You borrow \$3,847 at a nominal annual rate of 8% compounded quarterly. You agree to pay it back by paying \$2000 at the end of 4 years and \$4000 at the end of  $t$  years. Find  $t$ .

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## Review Ex 1 - D

A family is saving for a dream vacation to Europe by making equal deposits at the beginning of every month for 2 years (24 deposits). The account earns 12% nominal annual interest convertible monthly. They estimate that their vacation will cost \$12,000 and they want to leave one month after the last deposit. How much should the deposits be?

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## Review Ex 1-E

You deposit \$500 now and \$1000 three years from now into an account that accumulates to \$2000 six years from now. Find the nominal annual rate of compound interest convertible quarterly for this account.

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## Review Ex 1 - F

Find the sum of the present values of \$200 payments at the end of years 2, 3 and 6. Use a nominal annual interest rate of 5% compounded semiannually.

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