

# Flashcards

Learning & Memorizing Key Topics and Formulas

# SOA Exam FM

Fall 2018 Edition



ACTEX

a/s/m

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## **Accumulation Function under Compound Interest**

$$a(t) = (1+i)^t$$

## **Accumulation Function under Simple Interest**

$$a(t) = 1 + it$$

Broverman page 13



## **Definition of Effective Rate of Interest for $u^{th}$ Period**

$$i_{u+1} = \frac{A(u+1) - A(u)}{A(u)}$$

## **Discount (or present value) Factor under Compound Interest**

$$v^t = \left(\frac{1}{1+i}\right)^t = (1+i)^{-t}$$

Broverman page 19

## **Discount (or present value) Factor under Simple Interest**

$$\frac{1}{1+it}$$

Broverman page 21

## **Generalized Discount Factor from Time $t_2$ Back to Time $t_1$**

$$\frac{A(t_1)}{A(t_2)}$$

Broverman page 23



## **Generalized Discount Factor under Compound Interest**

$$\frac{A(t_1)}{A(t_2)} = \frac{(1+i)^{t_1}}{(1+i)^{t_2}} = v^{t_2-t_1}$$

## **Generalized Discount Factor under Simple Interest**

$$\frac{A(t_1)}{A(t_2)} = \frac{1+i \cdot t_1}{1+i \cdot t_2} \neq 1+i(t_2-t_1)$$