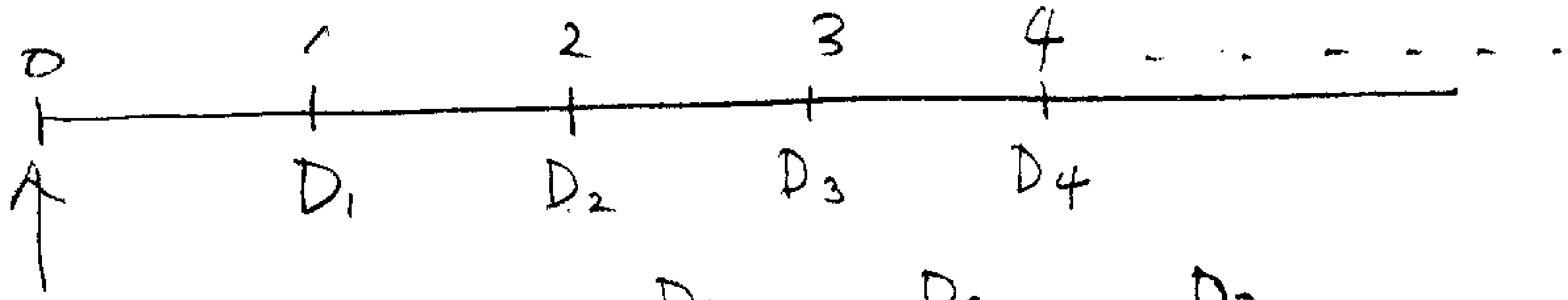
Stock Valuation

Dividend Discount Model

→ Stock price should be equal to the PV of future dividends.



$$\text{stock price today} = \frac{D_1}{1+r} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \cdots$$

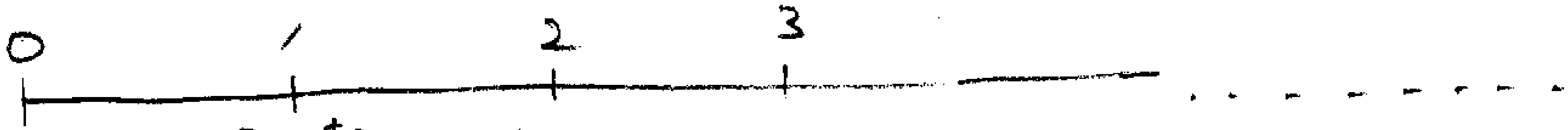
where D_t is the dividend in year t and r is the required rate of return on the stock.

① Constant Growth Model

→ assumes that the dividend will grow at a constant rate over time.

This means $D_{t+1} = D_t(1+g)$, g is the dividend growth rate.

For example, a firm is expected to pay a dividend of \$2 per share next year and its dividend growth rate is 6%.



$D_1 = \$2$

$D_2 = 2(1.06) = 2.12$

$D_3 = 2.12(1.06)$ or $2(1.06)^2 = 2.25$

A firm just paid a \$1.2 dividend per share and its dividend growth rate is 5%.

$D_0 = \$1.2$

$D_1 = 1.2(1.05) = 1.26$

$D_2 = 1.26(1.05)$ or $1.2(1.05)^2 = 1.32$

$D_3 = 1.32(1.05)$ or $1.2(1.05)^3 = 1.39$