Investment Formulas You Need to Memorize

$$\text{Current Yield} = \frac{\text{Annual interest in dollars}}{\text{Bond's market price}}$$

$$\text{Property's Intrinsic Value} = \frac{\text{Net Operating Income (NOI)}}{\text{Capitalization Rate}}$$

Intrinsic Value of a Call = Market Price - Exercise Price

Intrinsic Value of a Put = Exercise Price - Market Price

Tax-exempt yield = Taxable yield * (1 - Marginal Tax Rate)

$$\text{Return on Equity (ROE)} = \frac{\text{Earnings available for common (EPS)}}{\text{Common equity (net worth or book value)}}$$

$$\text{Dividend Payout Ratio} = \frac{\text{Common dividends paid}}{\text{Earnings available for common (EPS)}}$$

$$\text{Margin Call} = \frac{1 - \text{Initial margin percentage}}{1 - \text{Maintenance margin percentage}} \times \text{Purchase price of stock}$$

$$\text{Price / Earnings Ratio} = \text{P/E Ratio} = \frac{\text{Current market price}}{\text{Earnings}}$$

Investment Formulas You Need to Memorize with Examples

Current Yield = Annual interest in dollars / Bond's market price

$$\text{Current Yield} = \frac{\text{Annual interest in dollars}}{\text{Bond's market price}}$$

Example

If a $1,000 bond with a 10% coupon is now selling for $900, what is its current yield?

$$\text{Current Yield} = \frac{\$100}{\$900} = 11.11\%$$

$$\textbf{Property's intrinsic value} = \frac{\textbf{Net Operating Income (NOI)}}{\textbf{Capitalization Rate}}$$

Example

Once the annual NOI has been computed or given ($40,800 for example), it must be divided by the capitalization rate to arrive at the property's intrinsic value. The appropriate cap rate is a function of many factors including the type, location, age of the property, and the quality of the property's tenants, etc. For example with a cap rate of 10%, the intrinsic value for a property would be:

$$\text{Property's intrinsic value} = \frac{\text{Net Operating Income (NOI)}}{\text{Capitalization Rate}} = \frac{\$40{,}800}{.10} = \$408{,}000$$

Intrinsic Value of a Call Option = Market Price - Exercise Price

Call IV = MP - EP

Example

In the money The market price is $60, and the exercise price is $50. IV = $60 - $50 = $10

Out of the money The market price is $49 and the exercise price is $50. IV = $49 - $50 = -1 WRONG! Intrinsic value cannot be negative. If it is not positive, then it must be zero. Watch for this on the exam.

Intrinsic Value of a Put Option = Exercise Price - Market Price

Put IV = EP - MP

Example

In the money (Put) The market price is $25, and the exercise price is $30.
IV = $30 - $25 = $5

Out of the money (Put) The market price is $35, and the exercise price is $30.
IV = $30 - $35 = -$5? Wrong!

IV cannot be negative. If it is not positive, then it must be zero.

Tax-exempt yield = Taxable yield * (1 - Marginal Tax Rate)

Example

Susan's marginal bracket is 15%. She is considering either a corporate bond that pays 7% or a tax-exempt municipal bond paying 5.5%. Which bond should she buy?

Tax-exempt yield = Taxable yield * (1 - Marginal Tax Rate)
Tax-exempt yield = 7% * (1 - .15) = 5.95%

Return on Equity (ROE) = Earnings available for common (EPS) / Common equity (net worth or book value)

Example

You are given the following information for Corporation X.

Book Value	$180,000
Shares Outstanding	6,000,000
Dividend paid	$1.50 per share
EPS	$3.00
Market price per share	$50

What is the return on common equity (ROE)?

ROE = EPS / Book Value = 3.00 / 30* = 10%

*Book value per share is $180,000,000 / 6,000,000 = $30 / share

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Dividend Payout Ratio = $\dfrac{\textbf{Common dividends paid}}{\textbf{Earnings available for common (EPS)}}$

Using the numbers from the ROE example above…

Example

What is the dividend payout ratio?

Dividend Payout Ratio = $\dfrac{\text{Common dividends paid}}{\text{Earnings available for common (EPS)}} = \dfrac{1.50}{3.00} = 50\%$

Stock Yield = $\dfrac{\textbf{Dividend per share}}{\textbf{Stock Price per share}}$

Example

Using the number s from the ROE example above …

Stock Yield = $\dfrac{\text{Dividend per share}}{\text{Stock Price per share}} = \dfrac{\$1.50}{\$50} = 3\%$

Margin Call = $\dfrac{\textbf{1 - Initial margin percentage}}{\textbf{1 - Maintenance margin percentage}}$ **X Purchase price of stock**

Example

If an investor purchases 200 shares at $150 per share, at what price can he/she expect a margin call if the minimum maintenance is 25%?

Margin Call = $\dfrac{1 - .50}{1 - .25} \times 150 = \dfrac{.50}{.75} \times 150 = \$100$

Price / Earnings Ratio = **P/E Ratio** = $\dfrac{\textbf{Current market price}}{\textbf{Earnings}}$

Example

A stock with estimated earnings of $3 per share has a P/E ration of 15. What is its valuation?

Current Market price = Earnings x P/E ratio

Current Market price = $3 x 15 = $45