Selected Ratios and Definitions

(standard definitions; most formulas use the notations from the Berk, DeMarzo, Harford book)

Current Ratio = Current Assets / Current Liabilities;
Quick Ratio = (Current Assets - Inventory) / Current Liabilities;
Debt-to-Asset Ratio = Total Debt / Total Assets; *Debt-to-value ratio* = D/(E+D)
Debt-to-Equity = Total Debt / Total Equity;
Equity Multiplier = Total Assets / Total Equity;
Times Interest Earned = EBIT / Interest Payment;
Interest Coverage Ratio = Some Measure of Earnings / Interest;
Inventory Turnover = COGS / Inventory; or, Sales/Average Inventory if COGS data is not available;
Average Age of Inventory = 365 / Inventory Turnover = 365 / (Sales / Inventory);
Receivables Turnover = Annual Sales / Accounts Receivables;
Average Collection Period = 365 / Receivables Turnover = 365 / (Sales / Accounts Receivables);
Total Assets Turnover = Sales / Total Assets;
Net Profit Margin = Net Income / Sales;
ROA = Net Income / Total Assets = total asset turnover * net profit margin;
ROE = Net Income / Equity = ROA * Equity Multiplier = ROA * Total Assets / Equity;
ROE = total asset turnover * net profit margin * equity multiplier;

EPS = Net Income / Number of Common Shares Outstanding;
P/E Ratio = Market Price per Share / EPS;
Market-to-Book Ratio = Market Price per Share / Book Value per Share
Market-to-Book Ratio = Total Market Value of Equity / Total Book Value of Equity;
Dividend Payout Ratio (DPR) = Dividends / Net Income;
Retention Ratio = 1 - Dividend Payout Ratio;

Net Cash Flow = Net Income + Depreciation;
Operating Cash Flow (OCF) = Earnings before Interest and Taxes + Depreciation - Tax;
Free Cash Flow (FCF) = [EBIT x (1- Tax Rate)] + Depreciation – CAPEX – Change in NWC

Dividend Yield = Dividend per Share / Stock Price = Div_1 / P_0
Capital Gain Rate = (Price Next Period / Price today) – 1 = $(P_1 / P_0) – 1 = (P_1 - P_0) / P_0$)
Holding Period Return: HPR = $D_1/P_0 + (P_1/P_0 -1)$
Value of a perpetuity: P = C / r where *C* is the perpetual cash flow and *r* is the discount rate
Constant Growth Model: $P_0 = Div_1 / (r_E - g)$ where Div_1 is the next period dividend, r_E is the equity cost of capital and *g* is the growth rate in dividend.

Cost of Preferred Stock Capital; $r_{pfd} = (Div_{pfd} / P_{pfd})$; Cost of Common Equity Capital; $r_E = (Div_1 / P_E) + g$; or Security Market Line, SML or CAPM formula: $r_i = r_{RF} + \beta_i \times (r_M - r_{RF})$; $E(R_i) = r_f + \beta_i \bullet (\mathrm{E}[R_{mkt}] - r_f)$
WACC; $r_{WACC} = r_E E\% + r_{pfd} P\% + r_D (1 - T_C) D\%$

Single Cash Flow Present Value: $PV = C / (1 + r)^n$; Single Cash Flow Future Value: $FV_n = C * (1 + r)^n$
Present Value of Annuity: $PV_0 = C \cdot \frac{1}{r}\left[1 - \frac{1}{(1+r)^N}\right]$; Future Value of Annuity: $FV_N = C \cdot \frac{1}{r}\left[(1+r)^N - 1\right]$

Calculators

- Allowed; HP 10B, HP 10bii, HP 10BII+, TI BAII, TI BAII Plus, and TI BAII Plus Professional calculators; or any four function calculators
- Not allowed; Graphing or Programmable calculators; iPhones with HP-10B or other emulators