Quiz 2 — Answers and explanations

FINC 612 · FTMBA · October 27, 2026

Correct answers are **bolded** and underlined. A short explanation follows each question. The formula sheet is on page 3.

1. Which could help explain why a company's market value of equity exceeds its book value of equity?

   A. Book equity always equals the current share price times shares outstanding.
   B. Market value excludes expectations about future profits.
   C. Valuable customer relationships may not be fully reflected in book equity.
   D. A company's book equity includes the market value of every intangible asset.

   Why: Customer relationships can contribute to market value without being fully reflected in accounting equity. Market and book equity need not be equal.

2. In the class formula, enterprise value equals market capitalization plus debt minus excess cash. What does this measure represent?

   A. The market value of shareholders' claims alone.
   B. The value of the operating business available to debt and equity investors.
   C. The book value of the company's equity.
   D. The cash available for an immediate dividend.

   Why: Enterprise value measures the operating business attributable to debt and equity investors; market capitalization measures the equity claim alone.

3. Two firms have the same return on equity (ROE). According to the DuPont identity, what can you conclude?

   A. They must have the same net profit margin.
   B. They must have the same asset turnover.
   C. They must use the same amount of financial leverage.
   D. Different combinations of profitability, efficiency and leverage can produce that ROE.

   Why: ROE is the product of profit margin, asset turnover and the equity multiplier. Different combinations of those three ratios can produce the same ROE.

4. Why can a profitable company have little free cash flow?

   A. Capital expenditures and investment in working capital can absorb cash.
   B. Every dollar of net income must remain in the bank.
   C. Depreciation is always a cash payment in the current period.
   D. Free cash flow ignores investment in operating assets.

   Why: Reported profit is not the same as cash available after reinvestment. Capital expenditures and additional working capital can absorb cash.

5. A firm has EBIT of \$200 and a tax rate of 25%. Net fixed assets increased by \$40, and net working capital increased by \$10. Using the class method, what is its free cash flow?

   A. \$150
   B. \$140
   C. \$100
   D. \$200

   Why: $NOPAT = 200(1 - .25) = 150$; $FCF = 150 - 40 - 10 = 100$. Both increases in operating investment reduce free cash flow.

6. You will receive $1,210 exactly two years from today. If the annual discount rate is 10%, compounded annually, what is the present value?

   A. $1,000
   B. $1,100
   C. $1,210
   D. $1,464.10

   Why: $PV = 1{,}210/(1.10)^2 = 1{,}000$. Discount the receipt for both years.

7. Holding the amount and payment date fixed, what happens to the present value of a positive future cash flow when the discount rate increases?

   A. It increases by the same percentage as the rate.
   B. It stays the same.
   C. It becomes equal to the future cash flow.
   D. It decreases.

   Why: A higher discount rate increases the denominator in the present-value formula, reducing the value of the same positive future receipt.

8. A project pays $100 at the end of Year 1 and $200 at the end of Year 3, with nothing in Year 2. At a 10% annual discount rate, which expression gives the present value of these receipts?

   A. $100/(1.10) + 200/(1.10)^2$
   B. $\mathbf{100/(1.10) + 200/(1.10)^3}$
   C. $300/(1.10)^3$
   D. $100(1.10) + 200(1.10)^3$

   Why: Discount each receipt from its own date: one period for the first receipt and three for the second. The empty Year 2 does not move the Year-3 payment earlier.

9. A two-year bond has a $1,000 face value and an 8% annual coupon rate, paid semiannually. Its yield to maturity is 10% per year, and the next coupon is due in six months. What is its price, to the nearest cent?

   A. $1,000.00
   B. $965.29
   C. $964.54
   D. $822.70

   Why (HP 12C): Use four half-year periods, $40 coupons and 5% per half-year. Clear the financial registers (`f CLEAR FIN`) and set END mode (`g END`). Enter `4 n`, `5 i`, `40 PMT`, `1000 FV`, then press `PV`. The display is **−964.54**: the negative sign represents the purchase outflow, so the bond's price is **$964.54**. Enter `5` for the percentage rate, not `0.05`.

10. An asset will pay $6 one year from today, with annual payments growing at 2% forever after that. If the required annual return is 8%, what is its value today?

    A. $100
    B. $75
    C. $102
    D. $300

    Why: The first payment is already next year's cash flow: $PV = 6/(.08 - .02) = 100$. Do not increase the 6 by the growth rate again.

Quiz 2 — Formula Sheet

DuPont identity

$$ROE = \underbrace{\frac{\text{Net income}}{\text{Revenue}}}_{\text{Net profit margin}} \times \underbrace{\frac{\text{Revenue}}{\text{Total assets}}}_{\text{Asset turnover}} \times \underbrace{\frac{\text{Total assets}}{\text{Book equity}}}_{\text{Equity multiplier}}$$

Free cash flow — class method

$$FCF = EBIT(1-\tau) - \Delta NFA - \Delta NWC$$

τ = tax rate; NFA = net fixed assets (net PP&E); NWC = current assets minus current liabilities. Each Δ is the ending balance minus the beginning balance.

Enterprise value

$$EV = \text{Market capitalization} + \text{Debt} - \text{Excess cash}$$

Present and future value

$$PV_0 = \frac{CF_t}{(1+r)^t} \qquad FV_T = CF_t(1+r)^{T-t}$$

CF_t is the cash flow at date t; r is the rate per period. For several cash flows, move each to the same date, then add:

$$PV_0 = \sum_{t=0}^{N} \frac{CF_t}{(1+r)^t} \qquad FV_T = \sum_{t=0}^{T} CF_t(1+r)^{T-t}$$

Perpetuity and growing perpetuity

$$PV_0 = \frac{CF_1}{r} \qquad PV_0 = \frac{CF_1}{r-g} \quad (r > g)$$

CF_1 is the first payment, one period from today; g is the constant growth rate per period. The level perpetuity uses $r > 0$.

Bond price — coupon payments plus face value

$$P = C\left[\frac{1-(1+r)^{-N}}{r}\right] + \frac{F}{(1+r)^N}$$

C = coupon per period; F = face value; N = number of remaining payment periods; r = yield per period. The next coupon arrives in one period. Match the rate to the payment interval; express rates as decimals.