1. The present value of $100.00 expected two years from today at a discount rate of 6% is:

   A. $112.36.

   B. $106.00.

   C. $100.00.

   D. $89.00.

   PV = 100/(1.06^2) = 89.00.

2. Present value is defined as:

   A. future cash flows discounted to the present by an appropriate discount rate.

   B. inverse of future cash flows.

   C. present cash flows compounded into the future.

   D. future cash flows multiplied by the factor $(1 + r)^t$.

3. If the annual interest rate is 12.00%, what is the two-year discount factor?

A. 0.7972

B. 0.8929

C. 1.2544

D. 0.8065

DF2 = 1/(1.12^2) = 0.7972.

4. Which of the following statements regarding the NPV rule and the rate of return rule is false?

A. Accept a project if its NPV > 0.

B. Reject a project if the NPV < 0.

C. Accept a project if its rate of return > 0.

D. Accept a project if its rate of return > opportunity cost of capital.

5. You would like to have enough money saved to receive an $80,000 per year perpetuity after retirement. How much would you need to have saved in your retirement fund to achieve this goal? (Assume that the perpetuity payments start on the day of your retirement. The annual interest rate is 10%.)

A. $1,500,000

B. $880,000

C. $800,000

D. $80,000

PV = [(80,000/0.10)] × (1.1) = 880,000; or PV = 80,000 + 80,000/0.10.

6. After retirement, you expect to live for 25 years. You would like to have $75,000 income each year. How much should you have saved in your retirement account to receive this income if the interest rate is 9% per year? (Assume that the payments start one year after your retirement.)

A. $736,693.47

B. $83,431.17

C. $1,875,000

D. $1,213,487.12

PV = [(1/0.09) - (1/((0.09)(1.09^25)))] × 75,000 = 736,693.47. Alternatively, [(75,000/.09) × [1 - (1/(1.09^25))]] = 736,693.47.

7. A three-year bond with 10% coupon rate and $1,000 face value yields 8%. Assuming annual coupon payments, calculate the price of the bond.

A. $857.96

B. $951.96

C. $1,000.00

D. $1,051.54

PV = (100/1.08) + (100/(1.08^2)) + (1100/(1.08^3)) = $1,051.54.

8. Important points to remember while estimating the cash flows of a project are:

I) Only cash flow is relevant.
II) Always estimate cash flows on an incremental basis.
III) Be consistent in the treatment of inflation.

A. I only

B. I and II only

C. II and III only

D. I, II, and III

9. The real interest rate is 3.0% and the inflation rate is 5.0%. What is the nominal interest rate?

A. 3.00%

B. 5.00%

C. 8.15%

D. 2.00%

1 + nominal rate = (1 + real rate) (1 + inflation rate) = (1.03)(1.05) = (1.0815).
Nominal rate = 0.0815 = 8.15%.

10. A firm has a general-purpose machine, which has a book value of $300,000 and is worth $500,000 in the market. If the tax rate is 35%, what is the opportunity cost of using the machine in a project?

A. $500,000

B. $430,000

C. $300,000

D. $200,000

The firm could sell the machine, which would generate a taxable capital gain of ($500,000 - $300,000) = $200,000. The opportunity cost of using the machine equals the market value of the machine less its tax impact: 500,000 - 200,000 × 0.35 = 430,000.

11. As the number of stocks in a portfolio is increased:

A. unique risk decreases and approaches zero

B. market risk decreases

C. unique risk decreases and becomes equal to market risk

D. total risk approaches zero

12. Suppose that Hospital X has before it a proposal of a four-year financial lease. The lease cash flows are:

Year 0	Year 1	Year 2	Year 2
55 000	30000	22000	12000

These cash flows reflect the cost of the machine, depreciation tax shields, and the after-tax lease payments. Ignore salvage value. Assume that the firm can borrow at 10% and faces a 25% marginal tax rate.

a) What is the value of the equivalent loan?
   a. 54470,32
   b. 56240,17
   c. 56603,82

d. 57379,63

b) What is the value of the lease?

a. -$1603,82
b. $529,32
c. $1603,82
d. -$2397,63