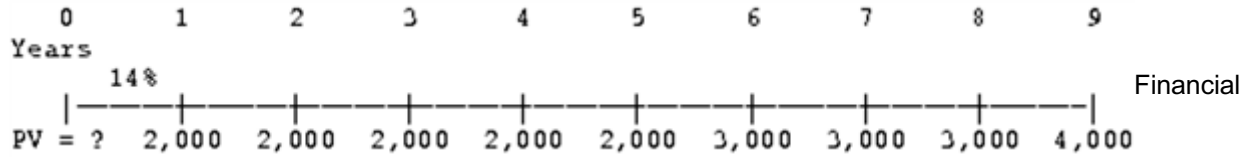


ECO352 - Review questions for 2nd exam

- Assume that you will receive \$2,000 a year in Years 1 through 5, \$3,000 a year in Years 6 through 8, and \$4,000 in Year 9, with all cash flows to be received at the end of the year. If you require a 14 percent rate of return, what is the present value of these cash flows?

Cash flow time line:



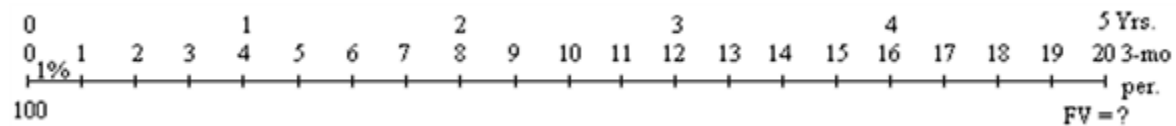
solution:

$$PVCF = \frac{\$2,000}{(1.14)^1} + \frac{\$2,000}{(1.14)^2} + \frac{\$2,000}{(1.14)^3} + \frac{\$2,000}{(1.14)^4} + \frac{\$2,000}{(1.14)^5} + \frac{\$3,000}{(1.14)^6} + \frac{\$3,000}{(1.14)^7} + \frac{\$3,000}{(1.14)^8} + \frac{\$4,000}{(1.14)^9}$$

$$PVCF = \$11,713.72 \approx \$11,714.$$

- If \$100 is placed in an account that earns a simple 4 percent, compounded quarterly, what will it be worth in 5 years?

Cash flow time line:



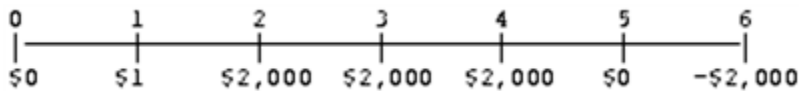
- Express Airlines is considering the purchase of an aircraft to supplement its current fleet. In estimating the impact of adding this aircraft to the fleet, management has developed the following expected cash flows:

End of Year

1	-\$ 1,000
2	\$100,000
3	\$100,000
4	\$100,000
5	\$100,000
6	\$100,000
7	-\$300,000

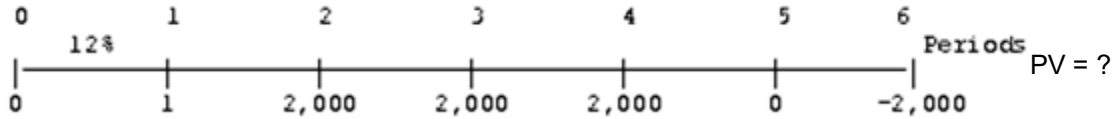
If the discount rate is 10 percent, what is the present value of these estimated flows?

- You are given the following cash flows. What is the present value ($t = 0$) if the discount rate is 12 percent?



RATIONALE:

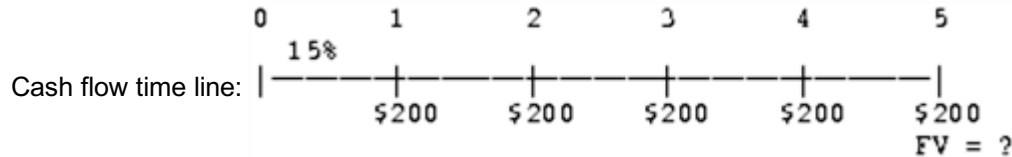
Cash flow time line:



Equation solution:
$$PVCF = \frac{\$1}{(1.12)^1} + \frac{\$2,000}{(1.12)^2} + \frac{\$2,000}{(1.12)^3} + \frac{\$2,000}{(1.12)^4} + \frac{-\$2,000}{(1.12)^6} = \$3,276.615 \approx \$3,277.$$

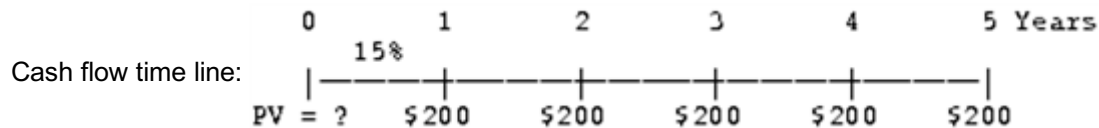
5. What is the future value of a 5-year ordinary annuity with annual payments of \$200, evaluated at a 15 percent interest rate?

RATIONALE:



6. What is the present value of a 5-year ordinary annuity with annual payments of \$200, evaluated at a 15 percent interest rate?

RATIONALE:



7. You have just purchased a 10-year, \$1,000 par value bond. The coupon rate on this bond is 8 percent annually, with interest being paid each 6 months. If you expect to earn a 10 percent simple rate of return on this bond, how much did you pay for it?

RATIONALE: Equation solution:

$$V_d = \$40 \left[\frac{1 - \frac{1}{(1 + 0.05)^{20}}}{0.05} \right] + \frac{\$1,000}{(1 + 0.05)^{20}} = \$498.49 + \$376.89 = \$875.38$$

0	1	2	3	4	...	10 Years
		1		2		20 6-month
PV = ?	40	40	40	40		40 FV = 1,000
						periods

8. You intend to purchase a 10-year, \$1,000 face value bond that pays interest of \$60 every 6 months. If your simple annual required rate of return is 10 percent with semiannual compounding, how much should you be willing to pay for this bond?

9. A \$1,000 par value bond pays interest of \$35 each quarter and will mature in 10 years. If your simple annual required rate of return is 12 percent with quarterly compounding, how much should you be willing to pay for this bond?

10. Suppose that you read in *The Wall Street Journal* that a bond has a coupon rate of 9 percent, a price of 71 3/8, and pays interest annually. Rounded to the nearest whole percent, what would be the bond's "current" yield?

11. A share of perpetual preferred stock pays an annual dividend of \$6 per share. If investors require a 12 percent rate of return, what should be the price of this preferred stock?

12. The Jones Company has decided to undertake a large project. Consequently, there is a need for additional funds. The financial manager plans to issue preferred stock with a perpetual annual dividend of \$5 per share and a par value of \$30. If the required return on this stock is currently 20 percent, what should be the stock's market value?

13. A share of preferred stock pays a dividend of \$0.50 each quarter. If you are willing to pay \$20.00 for this preferred stock, what is your simple (not effective) annual rate of return?

14. The last dividend on Spirex Corporation's common stock was \$4.00, and the expected growth rate is 10 percent. If you require a rate of return of 20 percent, what is the highest price you should be willing to pay for this stock?

15. A share of common stock has just paid a dividend of \$2.00. If the expected long-run growth rate for this stock is 15 percent, and if investors require a 19 percent rate of return, what is the price of the stock?
16. A share of common stock has a current price of \$82.50 and is expected to grow at a constant rate of 10 percent. If you require a 14 percent rate of return, what is the current dividend on this stock?
17. The last dividend paid by Klein Company was \$1.00. Klein's growth rate is expected to be a constant 5 percent for 2 years, after which dividends are expected to grow at a rate of 10 percent forever. Klein's required rate of return on equity (r_s) is 12 percent. What is the current price of Klein's common stock?
18. Given the following probability distributions, what are the expected returns for the Market and for Security J?

State _i	Pr_i	r_M	r_J
1	0.3	-10%	40%
2	0.4	10	-20
3	0.3	30	30

19. Calculate the required rate of return for Mercury Inc., assuming that investors expect a 5 percent rate of inflation in the future. The real risk-free rate is equal to 3 percent and the market risk premium is 5 percent. Mercury has a beta of 2.0, and its realized rate of return has averaged 15 percent over the last 5 years.
20. Given the following information, determine which beta coefficient for Stock A is consistent with equilibrium:
21. If the risk-free rate is 7 percent, the expected return on the market is 10 percent, and the expected return on Security J is 13 percent, what is the beta of Security J?
22. You are an investor in common stock, and you currently hold a well-diversified portfolio which has an expected return of 12 percent, a beta of 1.2, and a total value of \$9,000. You plan to increase your portfolio by buying 100 shares of AT&E at \$10 a share. AT&E has an expected return of 20 percent with a beta of 2.0. What will be the expected return and the beta of your portfolio after you purchase the new stock?