

Introduction to Valuation Practice Problems

From the book: Self Test Problem 5.1-5.4. Question and Problems: 1-20 (same for 11th and 12th)

1. Cheryl, Samantha, and Nicole just graduated medical school and are starting work as residents for the next 5 years. They each received \$10,000 awards for graduating at the top of their classes. Cheryl decides to invest all the money and expects to earn 8% interest. Samantha wants to go on a trip with the money but the trip costs \$18,000. Nicole wants to buy a new BMW that costs \$40,000.
 - (a) How much money will Cheryl have at the end of residency?
 - (b) What interest rate does Samantha need to earn in order to go on her trip at the end of residency.
 - (c) How long does Nicole have to wait to pay cash for her BMW if she can earn 10%?
2. Tina and Mark expect to spend \$30,000 on their wedding. If they plan on getting married in 4 years and can earn 6% on their investment, how much money do they need to put away today in order to afford the wedding?
3. Daniela and Giovanni have a two year old son and are expecting their second child. They expect to need \$100,000 when each child begins college to pay for tuition. They currently have \$20,000 in their 529 college savings account. Assume their first child will attend college 16 years from today and their second child will attend college 18 years from today. They can earn 8.8% on their investment. (Hint: Draw a timeline)
 - (a) How much money do they have to add to their 529 savings account today in order to afford college for both kids.
 - (b) If they can only put away another \$20,000 today, what interest rate will they need to earn to pay for college, assume you can earn 5% after the first kid starts college?

Answers to Textbook

11th edition:

- 1) \$1,384.42 2) \$7,575.83; \$12,310.02; \$397,547.04;
\$306,098.52 3) \$5,039.79; \$39,332.59; \$1,730.78; \$3.37
- 4) 13.18%; 6.72%; 7.37%; 10.86%
- 5) 15.59 years; 9.40 years; 26.41 years; 24.52 years
- 6) 9.08% 7) 9.84 years; 19.68 years
- 8) 3.34% 9) 34.33 years 10) \$145,340,259.61
- 11) \$6,142.61 12) \$5,352.15
- 13) 8.12%; \$12,324,441.95 14) -4.46%
- 15) 5.49%; 6.99%; 5.72%
- 16) 3.53%; \$50.50; 7.07% 17) \$81,137.26
- 18) \$364,452.42; \$140,512.18
- 19) \$30,523.08 20) 20.68 years

12th edition:

- 1) \$2,044.22 2) \$8,929.88; \$13,734.06; \$363,508.30
\$487,874.54 3) \$5,490.24; \$36,861.57; \$25,597.33; \$268.58
- 4) 11.86%; 7.13%; 10.95%; 8.97% 5) 13.43 years; 10.53 years
31.99 years; 28.71 years 6) 9.01% 7) 11.71 years; 23.41 years
- 8) 3.18% 9) 37.75 years 10) \$150,568,214.49 11) \$3,152.73
- 12) \$6,333.82 13) 8.07%; \$11,597,551.40; 14) -4.46%
- 15) 5.49%; 6.99%; 5.72% 16) 3.53%; \$50.50; 7.07%
- 17) \$94,237.34 18) \$400,897.66; \$154,563.40
- 19) \$29,679.56 20) 22.79 years

Answer to above problems

- 1) a) \$14,693 b) 12.47% c) 14.55 years
- 2) \$23,762.81
- 3) a) \$27,849.96 b) 10.25%