Introduction to Personal Finance Beginning Your Financial Journey 1st edition Grable Solutions Manual

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Chapter 2 – Solutions Manual

Learning Objectives

2.1 Discuss the role of compound interest in managing your finances.
2.2 Identify how time value of money concepts affect financial goals and decisions.
2.3 Calculate the effect of time and interest on financial decisions pertaining to planning, investing, and borrowing.
2.4 2.4 Describe how to use a balance sheet as a financial-management tool to track changes in assets, liabilities, and net worth.
2.5 Explain how to use a personal budget to track and forecast cash flow to achieve financial goals.
2.6 Describe how to create a personal financial plan.

Key to metadata for questions:

LO: Learning objective number
BT: Bloom's Taxonomy [Knowledge (K), Comprehension (C), Application (Ap), Analysis (An), Synthesis (S), Evaluation (E)]
Diff: Difficulty level [Easy (E), Medium (M), Hard (H)
TOT: Expected time for student to complete
AACSB: Communication (C), Ethics (E), Analytic (A), Technology (T), Diversity (D), Reflective Thinking (RT)

Sample rubric for writing questions:

Note: It is generally recommended that the rubric be shared with students, so it should be sufficiently general to not give away answers.

Notes For Instructor:

Each writing question will have criteria which is specific to the question. The instructor may want to add or delete grading criteria (rows) depending on the topic and assignment. How each grading criteria will be assessed and the associated points for each level of performance are found in columns 2 – 5.

In the sample rubric, a total of 16 points are possible for this assignment. Each grading criteria (row) is worth up to 4 pts (column 2).

Rubric: (It is suggested the rubric be shared with the students)

Criteria	Full points (4 out of 4)	75% of points (3 out of 4)	50% of points (2 out of 4)	25% of points (1 out of 4)
Thoroughness of answer to the question	The question is answered thoroughly	The response is lacking a few details	The response is lacking significant detail	The response is incomplete and limited
Answer is realistic / relevant	Amounts and information discussed are relevant and pertinent to the question	Some of the response is irrelevant to the question	Much of the response is irrelevant, unrealistic, or overly simplistic	Does not represent realistic or relevant understanding of topic.
Organization/clarity of thought (25% of score)	Well organized	Adequate organization	Limited organization	Poor organization
Appropriate recommendations and conclusions are reached. (25% of score)	A clear conclusion or recommendation is presented that is appropriate given the content discussed	Conclusion or recommendation is mostly clear and appropriate given the content	Conclusion or recommendation is incomplete	No conclusion/ recommendation provided

2.1 End-of-Topic Assessment

2.1 Multiple-choice Questions

1.c. Douglas who is borrowing money to pay for a vacation.

ANSWER: c; LO 2.1; BT: Ap; Difficulty: E; TOT: 2 min; AACSB: A

2.a. interest being reinvested and earning additional interest.

ANSWER: a; LO 2.1; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

3.a. The longer you let your money grow, the more it will produce.

ANSWER: a; LO 2.1; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

4. b. annual percentage rate.

ANSWER: b; LO 2.1; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

5.a. 22.80%
SOLUTION: 1.9% x 12 = 22.80%.

ANSWER: a; LO 2.1; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

6.a. daily.

ANSWER: a; LO 2.1; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

7.c. 12.68%
SOLUTION: $(1+.01)^{12} - 1 = 12.68\%$.

ANSWER: c; LO 2.1; BT: K; Difficulty: M; TOT: 2 min; AACSB: A

8.c. Earning periodic interest rate of 1.25% compounded semiannually
SOLUTION:
$(1+.002)^{12} - 1 = 2.43\%$
$(1+.006)^{4} - 1 = 2.42\%$
$(1+.0125)^{2} - 1 = 2.52\%$.
$(1+.025)^{1} - 1 = 2.50\%$

ANSWER: c; LO 2.1; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

9.c. 11 years
SOLUTION: 72/6.50 = 11.08.

ANSWER: c; LO 2.1; BT: Ap; Difficulty: E; TOT: 2 min; AACSB: A

10.b. Ravi, who earns 8% interest over a 10-year period.
SOLUTION:
Amal: Doubles money in 24 years (72/3)
Ravi: Doubles money in 9 years (72/9)
Gayle: Doubles money in 14 years (72/5)
Luis: Doubles money in 36 years (72/2)

ANSWER: b; LO 2.1; BT: An; Difficulty: H; TOT: 2 min; AACSB: A

2.1 Adventures in Personal Finance

Short Answer

1. Assume you are evaluating two different savings account options. One bank is offering an APR of 1.2% compounded monthly (monthly interest rate of 0.1%). The other bank is offering an APY of 1.25%. Assuming all other factors are equal, which offer is better?

Answer: The equivalent APY for an APR of 1.2% compounded monthly is APY = $[1+(.012/12)^{12}] - 1$ = .01207 or 1.207%. The 1.25% APY account is the better offer.
LO 2.1; BT: An; Difficulty: M; TOT: 10 min; AACSB: A

2. You just received a credit card offer in the mail. The credit card has an APR of 22.99%, with the interest being calculated and charged on a monthly basis. What is the APY on this credit card?

   Answer: The equivalent APY for a 22.99% APR loan that charges interest monthly is APY = $[1 + (.2299/12)^{12}] - 1$ = .2557 or 25.57%.
   LO 2.1; BT: An; Difficulty: M; TOT: 10 min; AACSB: A

3. You just received your credit card statement that showed that you charged $200 with your card for the month. If you choose not to pay off your credit card debt, how much interest will be charged on this debt for the month if the APR is 22.99%?

   Answer: Solution: Interest would be charged based on the monthly periodic rate, which is the APR divided by 12, or 22.99%/12 = 1.916% monthly. $200 X 1.916% = $3.83 in interest charges.
   LO 2.1; BT: An; Difficulty: H; TOT: 10 min; AACSB: A

Explore

1. Assume a short-term cash lender is located in your neighborhood. Your friend John is short on cash this month and talks to the lender. The lender tells John that he can get a $100 loan for 9 days. John will get his pay check in 9 days and will be able to pay back the loan at that time: the $100 borrowed, plus a fee (interest) of $5, for a total of $105. John knows that 22.99% APR on credit cards is really high, so he is reluctant to use his credit card. What is the APR on the $100 from the short-term neighborhood lender? What is the APY on the same loan? Would your friend be better off using his credit card or taking the short-term loan?

   Answer: Solution: The APR on the pay-day loan is APR = Periodic Rate X Number of Payment Periods in a Year. To calculate APR, you first need to calculate the Periodic Rate, which can be found by dividing the interest charged by the balance of the loan and then multiplying by 100 (to convert it to an interest rate), or $5/$100 X 100 = 5%. The next thing that must be determined is the Number of Payment Periods in a Year. The loan is for 9 days, so 365/9 = 40.6. Thus, the APR = 5% X 40.6 = 203%. The APY = $[1 + (2.03/40.6)^{40.6}] - 1$ = 6.25, or 625%. Clearly your friend would be better off using his credit card and paying an APR of 22.99% rather than 203.00%.
   LO 2.1; BT: S; Difficulty: H; TOT: 20 min; AACSB: A

2. Say that your money actually could grow as fast as the rabbit population in Australia grew, which is approximately equal to an APY of 38%. Assuming that you found a bank that would pay 38% APY and you deposited $100 into your account, how much money would you have in your account after 1 year? After 2 years? After 5, 7, and 10 years?

   Answer: Solution: After 1 year the balance would be $138 found by $FV = 100(1+.38)^1$); after 2 years it would be $190.44 found by $FV = 100(1+.38)^2$; after 5 years it would be $500.49 found by $FV = 100(1+.38)^5$; after 7 years it would be $953.13; after 10 years it would be $2,504.90.
   LO 2.1; BT: An; Difficulty: M; TOT: 15 min; AACSB: A

2.1 Expanded Learning Research

(Presentation) Visit the websites of the following online banks and credit unions:

- Ally®
- Discover®
- Nationwide®
- Connexus®
- CapitalOne 360®

Create a chart showing the APY paid by each institution on deposits. If available, show the APR charged on loans. Summarize your findings by recommending the best bank or credit union for those wanting to maximize the interest earned on their savings. Be sure to share the results of your analysis with others in class.

Answer: High quality responses should include a chart containing the APY and and APR by institution, a written summary, and recommendation on the best option for those seeking to maximize their interest earned. Please refer to the sample writing assignment rubric in the solutions manual.

LO 2.1; BT: S; Difficulty: M; TOT: 30 min; AACSB: A, C

2.1 Concept Checks

1. Return on your savings is called:
   a. Education.
   b. Training.
   c. Interest.
   d. Human Capital.
   ANSWER: c; LO 2.1; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

2. In order to earn a higher rate of interest on your savings, you must:
   a. Loan your money for a longer period of time.
   b. Take on more risk.

c. Require that the borrower use collateral to secure the loan.
d. Either loan your money for a longer period of time or take on more risk.

ANSWER: d; LO 2.1; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

3. What is used when comparing savings rate offers?
    a. An Annual Percentage Yield.
    b. An Annual Percentage Rate.
    c. The Compound Rate of Return.
    d. The Geometric Average.

ANSWER: a; LO 2.1; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

4. Mary uses her credit card frequently. Which of the following is the best strategy to minimize the amount of interest paid when using a credit card?
    a. Pay off the credit card balance monthly.
    b. Search for and use a credit card with the lowest APR.
    c. Pay more than the minimum monthly balance each month.
    d. Search for and use a credit card that compounds interest monthly.

ANSWER: a; LO 2.1; BT: C; Difficulty: E; TOT: 2 min; AACSB: n/a

5. Tula can earn ½ of 1 percent interest on her savings each month. What is Tula's APY?
    a. 5.00%
    b. 5.17%
    c. 6.00%
    d. 6.17%

ANSWER: d

SOLUTION: $(1+.005)^{12} - 1 = 6.17$

LO 2.1; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

2.2 End-of-Topic Assessment

2.2 Multiple-choice

1.c. time value of money calculations.

ANSWER: c; LO 2.2; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

2.c. Three inputs (the interest rate, and time period, and payment amount).

ANSWER: d; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

3.b. annuity.

ANSWER: b; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: n/a

4.b. a series of payments occurring at the beginning of the month.

ANSWER: b; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: n/a

5.b. future value of a lump sum.

ANSWER: c; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

6.c. future value of an annuity.

ANSWER: c; LO 2.2; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

7.a. Both calculate the present value of the annuity payments and compare it to the $100,000 lump sum option, and calculate the monthly payments (annuity) that could be generated using a $100,000 PV and compare the payments to the $1,000 payment option.

ANSWER: a; LO 2.2; BT: C; Difficulty: M; TOT: 2 min; AACSB: A

8.b. Amortization schedule.

ANSWER: b; LO 2.2; BT: C; Difficulty: M; TOT: 2 min; AACSB: A

9.c. Solve for the number of periods and Rule of 72.

ANSWER: c; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

10.b. prefer

ANSWER: b; LO 2.2; BT: C; Difficulty: M; TOT: 2 min; AACSB: n/a

2.2 Adventures in Personal Finance

Short Answer

1. You'd like to purchase a new car when you graduate and start working. The car that you would really like costs $35,000. You've checked with the bank and based on your income, you would qualify for a car loan with an annual interest rate of 5.9% with a 3-year repayment period. What would be your monthly car loan payment? To answer this question, conduct an Internet search and find at least two online TVM calculators. Compare your answers from the two calculators and reconcile any differences.

   Answer: PV = $35,000, N = 36, I = 5.9%/12; PMT = $1,063.18.
   LO 2.2; BT: An; Difficulty: M; TOT: 20 min; AACSB: A, T

2. You'd like to purchase a new car when you graduate and start working. The car that you would really like costs $35,000. You've checked with the bank and based on your income, you would qualify for a car loan with an annual interest rate of 5.9% with a 3-year repayment period. You now realize that you're not able to afford this car payment each month and still pay your other monthly expenses. The bank offers a 5-year car loan with the same interest rate. If you were to choose the 5-year car loan instead of the 3-year car loan, how much lower would your monthly payment be? To

answer this question, conduct an internet search and find at least two online TVM calculators. Compare your answers from the two calculators and reconciled any differences.

Answer: PV = $35,000, N = 36, I = 5.9%/12; PMT = $1,063.18 compared to PV = $35,000, N = 60, I = 5.9%/12; PMT = $675.02.
LO 2.2; BT: An; Difficulty: E; TOT: 20 min; AACSB: A, T

3. Your friend Beth just graduated and has two job offers that she is considering. Both job offers pay the same, but Job A contributes $2,000 annually to Beth's retirement plan while Job B does not offer a retirement plan at all. Assuming that Beth will be at her first job for 5 years and that she will earn 8% annually on her retirement savings plan, how much will Beth have in her retirement plan at Job A?

   Answer: Beth will have $11,733.20.
   SOLUTION: N = 5, PMT = $2,000, I = 8.0%. You can use an internet search to find an online TVM calculator to enter the N, PMNT, and I to return the FV. Or, using the future value of annuity of investing $1 table, go to the row for 5 periods, and across to the column for 8%. You will find the future value factor 5.86660. $2,000 x 5.8660 = $11,733.20.
   LO 2.2; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

Explore

1. There are hundreds of TVM calculators available online. Conduct an Internet search and find five online calculators. Using the same data, solve a present value and future value problem using each calculator. Write a summary of your findings, focusing on whether the outputs were the same for each calculator. If the solutions were different, how large were the differences? Finally, recommend the one calculator that you believe was accurate and the easiest to use.

   Answer: High quality responses should include clear identification of five online calculators and a comparison of the results from those findings and summary of the comparison. Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.2; BT: An; Difficulty: E; TOT: 30 min; AACSB: C, T

2. The interest rate used in TVM calculations is very important and can have a big impact on the outcome of the problem. As a result, it needs to be as accurate as possible. Conduct an Internet search for the following interest rates or rates of return (assume you qualify for the best rate):
   a. Savings account interest rates.
   b. 3-year auto loan.
   c. 5-year auto loan.
   d. 30-year mortgage.
   e. Historical rates of return in the stock market.

   Answer: High quality responses should include specific interest rates.
   LO 2.2; BT: S; Difficulty: M; TOT: 30 min; AACSB: n/a

2.2 Expanded Learning Research

(Writing) (Groupwork) As you have learned in this topic, TVM functions need to be used whenever money, interest, and time are involved in a financial goal. Chances are most people don't know that they are utilizing TVM in their daily lives. Identify some common items that utilize TVM (such as any type of loan payment, long-term savings plans, etc.). Talk to four people that are at least five years older than you. Ask them if they ever use TVM functions in their financial decisions. Then ask them if they are involved in any of the financial activities you identified that utilize TVM. If they are, find out more information, such as who determined the loan payment for them or how they know how much they should be savings for retirement. Work with a group of 2 to 3 other students and write a 300-500-word paper summarizing how these people use, or fail to use, TVM concepts in their financial decisions and transactions.

Answer: High quality responses should include a discussion of who was asked about retirement, how they use TVM, and whether others made the calculations for them. Please refer to the sample writing assignment rubric in the solutions manual.

LO 2.2; BT: An; Difficulty: M; TOT: 120 min; AACSB: A, C

2.2 Concept Checks

1. TVM calculations should be used when the following three things are part of a financial goal.
    a. Money, time, and interest.
    b. Risk, money, and insurance.
    c. Human capital, social capital, and budgeting.
    d. Risk preference, risk tolerance, and budgeting.

   ANSWER: a; LO 2.2; BT: K; Difficulty: E; TOT: 2 min; AACSB: A

2. If you wanted to know how long it would take $1,500 in an account earning 5.50% interest to double in value, what TVM variable would you want to solve for?
    a. PMT.
    b. FV.
    c. N.
    d. PV.

   ANSWER: c; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

3. Sancho would like to know what his savings will be worth in 5 years if he can earn a 6% return on his investment. Which TVM variable would Sancho want to solve for?
    a. PMT.
    b. N.
    c. FV.
    d. PV.

   ANSWER: c; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

4. Sandeep wants to save some money each month ~~for~~ to purchase a wedding ring and pay for a honeymoon in two years. What TVM variable would Sandeep want to solve for?
    a. PMT.
    b. N.

c. FV.
d. PV.

ANSWER: a; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

5. The Rule of 72 provides an estimate of how long it will take money to?
    a. Increase by one half.
    b. Double.
    c. Triple.
    d. Be repaid.

ANSWER: b; LO 2.2; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

2.3 End-of-Topic Assessment

2.3 Multiple-choice Questions

1.c. $3,675
SOLUTION: PV = $3,000; I/Y = 7; N = 3; FV = $3,675.

ANSWER: c; LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

2.c. $217,189
SOLUTION: PV = $100,000; I/Y = 9; N = 9; FV = $217,189.

ANSWER: c; LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

3.c. $23,140
SOLUTION: N = 5; FV = $34,000; I/Y = 8; PV = $23,140.

ANSWER: c; LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

4.a. $5,900
SOLUTION: FV = $7,500; N = 6; I/Y = 4; PV = $5,927 rounded to $5,900.

ANSWER: a; LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

5.d. $71,718
SOLUTION: PMT = $4,500; I/Y = 10; N = 10; FV = $71,718.

ANSWER: d; LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

6.a. He should take an immediate payment of $10,000.
SOLUTION: The payment option results in a lower present value: PMT = $3,000; I/Y = 9; N = 4; PV = $9,719.

ANSWER: a; LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

7.c. annuity payments.

ANSWER: c; LO 2.3; BT: C; Difficulty: E; TOT: 2 min; AACSB: n/a

8.c. $226 per month for 60 months from John's bank
SOLUTION:
Dealer 1: PMT = 247; N = 60; PMT = 247
Bank: PV = $12,000; I/Y = 4.9/12 or .4083; N = 60; PMT = $226
Dealer 2: PV = $12,000; I/Y = 5.9/12 or .4917; N = 60; PMT = $231.

ANSWER: c; LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

9.b. 23.5 years
SOLUTION:Rule of 72: 72/3 = 24 years or PV = $1,000; I/Y = 3; FV = $2,000; N = 23.45 years.

ANSWER: b; LO 2.3; BT: Ap; Difficulty: E; TOT: 2 min; AACSB: A

10.b. 10.4 percent
SOLUTION: N = 7; PV = $75,000; FV $150,000; I/Y = 10.41%.

ANSWER: b; LO 2.3; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

2.3 Adventures in Personal Finance

Short Answer

1. Which variable has the biggest impact on TVM calculations? Examine a FV of an annuity problem where annual payments are $2,000, the rate of return is 8%, and the number of years is 10. Using these inputs, the FV of the annuity is $28,973.12. For the following questions, use the originally stated variables (PMT = $2,000, N = 10, and I = 8%) except as directed in the question:
    a. What is the FV if the annual payment is doubled from $2,000 to $4,000?
    b. What is the FV if the interest rate is doubled from 8% to 16%?
    c. What is the FV if the time period is doubled from 10 years to 20 years?

    Answer: Time has the biggest impact in a TVM calculation, holding other inputs constant. In this questions:
    A. Doubling the payment increases the FV from $28,973.12 to $57,946.25.
    B. Doubling the interest rate increases the FV from $28,973.12 to $42,642.94.
    C. Doubling the time period from 10 years to 20 years increases the FV from $28,973.12 to $91,523.93.
    LO 2.3; BT: An; Difficulty: H; TOT: 20 min; AACSB: A

2. Seth was hoping to travel around the world for $25,000 in 4 years and currently has $12,500 set aside for the trip. He realizes that in order to achieve this goal, he has to earn an extremely high rate of return. The problem is that Seth is very loss-averse and has a relatively low tolerance for financial risk. While he does want to take his world cruise vacation, he decides to delay it, knowing that he could never sleep at night if he lost a large percentage of his savings. Based on this information, how much will Seth accumulate if he earns 5% annually in a low-risk investment for 15 years? Does the future value amount meet his $25,000 goal?

Answer: This is a future value calculation: *FV* = \$12,500 x $(1.05)^{15}$ = \$25,000 x 2.0789 = \$25,987 (rounded); yes.
LO 2.3; BT: An; Difficulty: E; TOT: 5 min; AACSB: A

3. Let's say that you can choose between the following two alternatives: (1) you will be given \$50,000, the money will be placed in an account earning 10% interest, and you may have the future value in 20 years; or (2) \$7,500 will be placed in an account every year for 20 years, the account will earn 8% an annual basis, and you may have the future value in 20 years. If your goal is to maximize your savings, which alternative should you choose?

   Answer: Although both choices are good ones, you should choose the \$7,500 annual payment option. Option 1 (the lump sum) will generate \$336,375 over the 20 year period. Here's the calculation: *FV* = \$50,000 x $(1.10)^{20}$ = \$50,000 x 6.7275 = \$336,375 (rounded). Option 2 results in a future value of \$343,215 (rounded). To estimate this value, you must use the future value of an annuity formula, as follows:
   Step 1: *FVA* = (\$7,500/.08) x $[(1 + .08)^{20} – 1]$; Step 2: *FVA* = \$93,750 x 3.6610; Step 3: *FVA* = \$343,214.73.
   LO 2.3; BT: An; Difficulty: H; TOT: 20 min; AACSB: A

Explore

1. The internet has greatly simplified TVM calculations for those willing to search out and understand these tools. Think of one financial goal that you have that is related to time and money. Find an appropriate TVM calculator that is specifically designed for your situation (i.e., retirement). Input your information into the calculator and find an answer. How helpful is this information? Is the amount you were looking for more, less, or about the same as you expected? What could you do to change the output of the calculator?
   Answer: High quality responses should the specifics of the TVM calculator utilized, how helpful it was to the student in answering the question, and how flexible the calculator was. Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.3; BT: An; Difficulty: M; TOT: 20 min; AACSB: A, T

2. Financial planners tend to use TVM calculators produced by Hewlett Packard (HP) and Texas Instruments (TI). Search these firms' websites and find information about the HP 12c, HP 10bII, and TI BAII Plus calculators. Compare and contrast the features of each calculator. Write a summary of your findings.
   Answer: High quality responses should include a comparison of the two calculators. Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.3; BT: Ap; Difficulty: M; TOT: 30 min; AACSB: C

2.3 Expanded Learning Research

Juan started with virtually nothing when he started his business. His initial investment into his business was \$1,000 for a computer. He worked very hard to make customers happy and grow his business. Now, after 5 years, Juan is selling his business for $1,500,000. What is Juan's rate of return on his investment? How likely is it for entrepreneurs to experience success similar to Juan's?

Answer: Juan's average annual rate of return is at least 332%. Juan's pay from the business could also be included as a return on the business investment an included in the calculation, which would make the rate of return even higher. Clearly, Juan's high rate of return is not simply from putting his $1,000 to work. Rather, the rate of return is high because it is reflecting the return on both the financial investment ($1,000) and Juan's human capital that he invested into the business. Since it is difficult to know the value of human capital Juan invested, it is not include in the amount invested. However, when the business is sold, all of Juan's human capital investment into the business is converted to a monetary amount in the form of the selling price. Successful entrepreneurs can experience tremendous rates of return on their investments, however, they can also experience tremendous financial loss as well. Please refer to the sample writing assignment rubric in the solutions manual.
LO 2.3; BT: An; Difficulty: H; TOT: 20 min; AACSB: A, C

2.3 Concept Checks

1. How many inputs do you need to know before calculating a typical TVM formula?
    a. Two.
    b. Three.
    c. Four.
    d. Only one if you use the Rule of 72.

ANSWER: b; LO 2.3; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

2. If you had $1,500 in an account earning 5.50% interest, how long (approximately) would it take for you to double your money to $3,000?
    a. 7 years.
    b. 9 years.
    c. 13 years.
    d. 15 years.

ANSWER: c;
SOLUTION: PV = $1,500; FV = $3,000; I/Y = 5.50; N = 12.95.
LO 2.3; BT: Ap; Difficulty: E; TOT: 2 min; AACSB: A

3. Sancho would like to know how long it will take him to double his money if he can earn a 3% return on his investment. If he uses the Rule of 70 it is:
    a. 36 years.
    b. 24 years.
    c. 23.33 years.
    d. 17.50 years.

ANSWER: c;
SOLUTION: 70/3 = 23.33 years.
LO 2.3; BT: Ap; Difficulty: E; TOT: 2 min; AACSB: A

4. How much will you accumulate if you invest $2,000 per year into a retirement plan (e.g., Roth IRA) for 35 years if you can earn an annualized rate of 8.50% (please round your answer)?

a. $22,176.
b. $34,759.
c. $379,750.
d. $385,403.

ANSWER: d;
SOLUTION: PMT = $2,000; N = 35; I/Y = 8.50; FV = $385,403.
LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

5. After getting married, Tamara decided that she and her husband needed to start doing serious retirement planning. She determined that they will need $1,000,000 in 25 years to live a comfortable life. If Tamara and her husband have $100,000 currently saved, what rate of return must they earn, on an annual basis, to meet their goal?
   a. 8.60%
   b. 9.00%
   c. 9.65%
   d. 10.00%

   ANSWER: c;
   SOLUTION: FV = $1,000,000; N = 25; PV = $100,000; I/Y = 9.65%.
   LO 2.3; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

2.4 End-of-Topic Assessment

2.4 Multiple-choice Questions

1.c. Balance sheet.

ANSWER: c; LO 2.4; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

2.c. Assets – Liabilities.

ANSWER: c; LO 2.4; BT: K; Difficulty: E; TOT: 2 min; AACSB: A

3.d. Stocks.

ANSWER: d; LO 2.4; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

4.b. The trade-in value of the car.

ANSWER: b; LO 2.4; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

5.a. A balance owed on a credit card statement.

ANSWER: a; LO 2.4; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

6.a. $4,000
SOLUTION: $4,000 + $3,000 - $2,000 - $1,000 = $4,000.

ANSWER: a; LO 2.4; BT: Ap; Difficulty: E; TOT: 2 min; AACSB: A

7.c. $53,200
SOLUTION: $500 + $5,000 + $15,000 - + $50,000 - $300 - $5,000 - $12,000 = $3,200 = $53,200.

ANSWER: c; LO 2.4; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

8.c. 1.67
SOLUTION: $500/$300 = 1.67.

ANSWER: c; LO 2.4; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

9.a. 0.25
SOLUTION: $17,300/$70,500 = .2454.

ANSWER: a; LO 2.4; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

10.a. The greater the debt ratio, the worse the financial situation.

ANSWER: a; LO 2.4; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

2.4 Adventures in Personal Finance

Short Answer

1. Explain how a balance sheet helps explain the status of a person's current financial situation.
   ANSWER: The balance sheet gives a snapshot of an individual's assets, liabilities, and net worth. It indicates whether an individual has savings that could be used to cover an emergency, or if the individual has excessive debt relative to their assets and net worth.
   LO 2.4; BT: C; Difficulty: M; TOT: 10 min; AACSB: C

2. Describe some of the personal and environmental factors that can help shape someone's net worth position today and in the future.

   Answer: High quality responses should include a discussion of personal and environmental factors that can help shape someone's net worth. Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.4; BT: C; Difficulty: M; TOT: 10 min; AACSB: C

3. Assuming that you own the following property, determine the order that these will be listed on the balance sheet: Stamp Collection, Checking Account, Car, Boat, Furniture.

   Answer: (1) Checking Account, (2) Car, (3) Furniture, (4) Boat, (5) Stamp Collection,
   LO 2.4; BT: Ap; Difficulty: M; TOT: 5 min; AACSB: n/a

4. Your neighbor would like some help getting his finances in order. He has asked that you review the following list of his assets and liabilities:
   - Savings Account: $1,000

- 6-month Certificate of Deposit: $200
- Car: $3,500
- Baseball Card Collection: $75
- Clothes: $450
- Furniture: $600
- Credit Card Bills: $375
- Money Owed to Friend: $100
- Car Loan: $1,000

a) What is your neighbor's net worth?
b) Which asset is considered a monetary asset on the balance sheet?
c) What is the total amount owed for current debts/liabilities?
d) What is his current ratio?
e) What is his debt ratio?
f) Interpret the current and debt ratio calculations.

Answer:

a) Assets = $5,825; Liabilities = $1,475; $5,825 - $1,475 = $4,350.
b) The bank account and CD are considered monetary assets; even though the certificate of deposit is not as liquid as the account, it is still a short-term CD and therefore it should be classified as a monetary asset.
c) Current debts and liabilities include those bills which are payable within one year. This means both the credit cards and the money owed to his friend are short-term debts for a total of $475.
d) Monetary Assets / Short-term debts = $1,200 / $475 = 2.53.
e) Total Liabilities / Total Assets = $1,475 / $5,825 = .25 or 25 percent.
f) Your neighbor is doing quite well in terms of the current ratio. He has $2.53 in cash for every $1 in short term (current) debt. He is doing quite well in terms of debts to assets. The debt ratio currently stands at 25 percent; the benchmark is 40% or lower. This means that he is managing his debt load well.

LO 2.4; BT: An; Difficulty: H; TOT: 25 min; AACSB: A

Explore

1. Your best friend Ashanda is creating her balance sheet. She owns a basic 2015 Ford Focus hatchback SE. As of today, the car has been driven 22,000 miles. When you looked at the car, you saw normal wear and tear but no major mechanical problems. Go to either edmunds.com or kbb.com to find both the trade-in and private-party value of the car. Which is higher and why? Which value should Ashanda use on her balance sheet?

   Answer: High quality responses should include a discussion of the car's value under each category. Ashanda should use the lower value because it is more conservative and does not overestimate the value of the car.
   LO 2.4; BT: Ap; Difficulty: M; TOT: 10 min; AACSB: A

2. As you have learned from this chapter, the value of your human capital is not shown on the balance sheet as an asset. However, this is very important information for lenders to know when deciding whether to give you a loan. If you were a lender, what information would you be interested in knowing to assess the value of someone's human capital and whether they would be able to repay a loan on time?

ANSWER: Education level, employment, how long they have been working at their current job. Please refer to the sample writing assignment rubric in the solutions manual.
LO 2.4; BT: Ap; Difficulty: M; TOT: 10 min; AACSB: A

2.4 Expanded Learning Research

Complete a personal balance sheet for yourself if you are single, or for your family if you have others in your household. Be sure to carefully document all the assets you own and obtain fair market value estimates for your assets. Similarly, gather information on all unpaid liabilities and other debts. Once these data have been input into the balance sheet, calculate your net worth and the current and debt ratios for your situation. Be sure to comment on the status of your asset and liability situation and what the financial ratios indicate about your financial situation.

Answer: High quality responses should include the student's balance sheet and a discussion of the student's assets, liabilities, and ratios. Please refer to the sample writing assignment rubric in the solutions manual.
LO 2.4; BT: An; Difficulty: H; TOT: 30 min; AACSB: A

2.4 Concept Checks

1. An asset is:
    a. Something you own.
    b. Something you owe.
    c. Something you must insure.
    d. Both something you own and something you must insure.

ANSWER: a; LO 2.4; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

2. Fair market value is:
    a. The price you would pay someone else for an asset.
    b. The price you paid for an asset.
    c. The price you could sell an asset for in the marketplace.
    d. The price you would pay to replace an asset.

ANSWER: c; LO 2.4; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

3. Roger owns a boat and has a boat loan. As he prepares his balance sheet, what value should he use as a liability related to the boat?
    a. The price he paid for the boat.
    b. The monthly payment on the boat loan.
    c. The amount remaining on the boat loan.
    d. The price of a similar boat if he were buying a boat today.

ANSWER: c; LO 2.4; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

4. Who is more likely to have a negative net worth?
    a. A retiree.
    b. A married couple whose children have just graduated from college.
    c. A newlywed couple who just graduated from college.
    d. A high school student.

ANSWER: c; LO 2.4; BT: C; Difficulty: E; TOT: 2 min; AACSB: n/a

5. Which is the most liquid asset?
    a. Money held in stocks.
    b. Investments in bonds.
    c. Savings in a bank account.
    d. Cash in your wallet.

ANSWER: d; LO 2.4; BT: C; Difficulty: E; TOT: 2 min; AACSB: n/a

2.5 End-of-Topic Assessment

2.5 Multiple-choice Questions

1.d. III, II, IV, and I.

ANSWER: d; LO 2.5; BT: Ap; Difficulty: E; TOT: 2 min; AACSB: n/a

2.d. Income and expense statement.

ANSWER: d; LO 2.5; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

3.c. travel and entertainment expenses.

ANSWER: c; LO 2.5; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

4.c. spending more than you are earning.

ANSWER: c; LO 2.5; BT: K; Difficulty: E; TOT: 2 min; AACSB: A

5.d. Either it means that she will need to borrow money to fund the deficit or it means that she will need to sell assets to fund the deficit.

ANSWER: d; LO 2.5; BT: C; Difficulty: E; TOT: 2 min; AACSB: A

Use the following information to answer the questions that follow about John.

Item	Budget	Actual	Difference
Income	$9,000	$9,000	
Rent	$2,000	$2,000	
Utilities	$1,000	$800	
Taxes	$3,000	$3,100	

Transportation	$500	$700
Food at Home	$400	$300
Food Away from Home	$500	$800
Debt Payments	$1,200	$1,200
Savings	$400	$25
Total Expenses		
Surplus/Deficit		

6.b. John ran a $75 surplus for the month.
SOLUTION: Expenses = 2,000 + 800 + 3,100 + 700 + 300 + 800 + 1,200 + 25 = 8,925 total expenses. Income 9,000 – Expenses 8,925 = $75 surplus.

ANSWER: b; LO 2.5; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

7.c. Food away from home.
SOLUTION: In calculating the difference between the projection and actual: Utilities: 1,000 – 800 = 200; Taxes: 3,100 – 3,000 = 100; Transportation: 700 – 500 = 200; food at home: 400 – 300 = 100; Food away from home: 800 – 500 = 300. Of these differences, Food away from home is the greatest difference at 300.

ANSWER: c; LO 2.5; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

8.b. Although John did not exceed his budget, he was not able to save as much as projected.

ANSWER: b; LO 2.5; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

9.c. 4%
SOLUTION: $400/$9,000 = 4.44%.

ANSWER: c; LO 2.5; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

10.b. Purchasing a moderately priced new car in 3 years.

ANSWER: b; LO 2.5; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

2.5 Adventures in Personal Finance

Short Answer

1. Determine which of the following statements are true about managing resources. If false, indicate why.
    a. Having clear financial goals is the first step in managing your money.

b. Setting up spending guidelines, or a budget, is the first step in managing your money.
c. Tracking expenses and setting up a budget is the same thing.
d. Most people know exactly how they spend their money each month, regardless of whether they track their expenses.
e. Savings is an essential element of any budget.
f. Managing your money is only necessary during your working years or while you are preparing for retirement; once retired, you will no longer need to monitor your spending.

Answer: A. True; B. False; C. False; D. False; E. True; F. False.

LO 2.5; BT: C; Difficulty: M; TOT: 5 min; AACSB: n/a

2. Take a moment to look at Hannah's budget in Illustration 2.5.4. You can see that she overspent on food. How could the budget help Hannah better manage her spending on food?

   Answer: By expanding the Food category into sub-categories, such as "Eating Out" and "Groceries," Hannah would be better able to determine why she went over budget. She would know whether she is spending too much on eating out, or she could tell that she needs to be more frugal at the grocery store.

   LO 2.5; BT: Ap; Difficulty: M; TOT: 5 min; AACSB: A

3. Although it is a lot of work, tracking expenses on a weekly or sometimes daily basis can be helpful. Describe why this would be a good recommendation to follow. Specifically, what is the problem with compiling your expenses at the end of the month and comparing the results to what you had budgeted for that month?

   Answer: If budgeted and actual expenses are only compared once a month then you will only know whether you have a surplus or a deficit. However, you will not be able to make any adjustments to your spending during the month. Comparing actual spending to budgeted spending more frequently, will allow you to make adjustments.

   LO 2.5; BT: Ap; Difficulty: M; TOT: 5 min; AACSB: n/a

Explore

1. There are many ways that you can create and track a budget. Several websites, smartphone and tablet apps, and software programs make it easy by doing the math for you. Some services automatically link all of your financial accounts (bank accounts, credit cards, and the like) to your budget, so that you can see how much money you have left in each of your budget categories. Conduct an Internet search and identify six different methods of budgeting and tracking your expenses. List the pros and cons associated with each method, and identify one that you would use for yourself. Be sure to share the results of your research with others in your class.

Answer: High quality responses should include a discussion and comparison of various budgeting tools including pros and cons of each and which one the student would choose to use. Please refer to the sample writing assignment rubric in the solutions manual.
LO 2.5; BT: Ap; Difficulty: M; TOT: 5 min; AACSB: T, C

2. A group of college students was asked to track their expenses for a three-month period. At the end of each month, the students were asked to write a short response to the question: "Is my spending consistent with my personal values?" During this three-month period, they were also asked to set some personal financial goals and to set up a budget the last month. At the end of the three months, more than 75% of students reported becoming aware of problematic spending habits that they had not realized they had prior to tracking their expenses. Additionally, 60% of the students who realized that they had problematic spending behaviors were able to change their behavior during the three-month period. The most commonly reported spending-problem areas were eating out, alcohol, and clothing. Fortunately, students also reported the most improvement in their spending in these same areas. Do you think college students in general would identify these same problem areas? What do you identify as your problem-spending areas?

   Answer: High quality responses should include a discussion of general spending categories that college students find challenging and a specific discussion of spending categories that the students finds challenging. Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.5; BT: Ap; Difficulty: M; TOT: 20 min; AACSB: RT

2.5 Expanded Learning Research

Do a quick survey of 20 students and find out how many of them track all of their expenses? Also ask them what they think the biggest challenge with budgeting and tracking is. See if they have come up with any solutions. Summarize your findings in a one to two-page paper and share it with your classmates.

Answer: High quality responses should include a discussion of student responses and suggestions. Please refer to the sample writing assignment rubric in the solutions manual.
LO 2.5; BT: An; Difficulty: M; TOT: 60 min; AACSB: C, RT

2.5 Concept Checks

1. A tool that helps you determine how you want to spend your income is known as a(n):
   a. Income and Expense Statement.
   b. Balance Sheet.
   c. Budget.
   d. Cash Flow Statement.

   ANSWER: c; LO 2.5; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

2. All of the following are sections of a budget, except:

a. Income.
b. Savings.
c. Expenses.
d. Assets.

ANSWER: d; LO 2.5; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

3. One purpose of a budget is:
   a. To help you see where you are spending money on a regular basis.
   b. To track the change in value of assets.
   c. To determine increases and decreases in liabilities.
   d. To see how money is spent, track changes in asset values, and identify changes in liabilities.

ANSWER: a; LO 2.5; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

4. Many college age students are likely to overspend on a monthly basis on some or all of the following items, except:
   a. Eating out.
   b. Entertainment.
   c. Clothing.
   d. Charitable donations.

ANSWER: d; LO 2.5; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

5. How can someone turn a projected budget deficit into a surplus?
   a. Cut variable expenses.
   b. Sell assets and use the proceeds as income.
   c. Decrease federal tax payments.
   d. Both cut variable expenses and sell assets and use the proceeds as income.

ANSWER: d; LO 2.5; BT: K; Difficulty: E; TOT: 2 min; AACSB: A

2.6 End-of-Topic Assessment

2.6 Multiple-choice Questions

1.a. lack of experience.

ANSWER: a; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

2.a. very risk-tolerant.

ANSWER: a; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

3.d. financial capacity and time horizon.

ANSWER: d; LO 2.6; BT: C; Difficulty: E; TOT: 2 min; AACSB: n/a

4.a. make the best financial decisions.

ANSWER: a; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

5.d. All the answer choices are correct.

ANSWER: d; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

6.d. Saving $75,000 for the down payment on a home that will be purchased in 4 years.

ANSWER: d; LO 2.6; BT: C; Difficulty: E; TOT: 2 min; AACSB: n/a

7.b. financial capacity.

ANSWER: b; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

8.d. 1.50
SOLUTION: $3,000/$2,000 = 1.50.

ANSWER: d; LO 2.6; BT: Ap; Difficulty: M; TOT: 2 min; AACSB: A

9.a. allows someone to take more risk to meet a goal.

ANSWER: a; LO 2.6; BT: Ap; Difficulty: E; TOT: 2 min; AACSB: n/a

10.c. She will fall short of the goal by $12,633
SOLUTION: PMT = $6,000; N = 5; I/Y = 11; FV = $37,367 - $50,000 = $12,633 shortfall.

ANSWER: c; LO 2.6; BT: An; Difficulty: M; TOT: 2 min; AACSB: A

2.6 Adventures in Personal Finance

Short Answer

1. Describe the attributes of a SMART financial goal within a financial plan.
   ANSWER: Specific, Measurable, Attainable, Relevant or Realistic, and Time bound.
   LO 2.6; BT: C; Difficulty: E; TOT: 5 min; AACSB: A

2. Ana recently calculated her financial score. She was stunned to see how low it turned out to be. Undaunted, Ana has determined to turn her financial situation around. To do this, she has set a financial goal to create an emergency savings fund. She can save $300 per month ($3,600 per year). She would like to accumulate $15,000 over the next four years. If Ana can earn 3% on her yearly savings, do you think she will accomplish her goal?

   ANSWER: Ana should accomplish her goal. Using the future value of an annuity formula from the chapter, Ana will accumulate $15,279.36 in the account at the end of 4 years [($300/ .0025) x ($1.0025^{48}$ – 1)]. This is $120,000 * .12733 = $15,279.36. You could also use a financial calculator ($300 = PMT; 3/12 = I/YR; 4*12 = N; $0 = PV; CPT (solve for) FV) and the answer is $15,279.36.

   LO 2.6; BT: An; Difficulty: M; TOT: 10 min; AACSB: A

3. (Group) As a class, split into groups of three or four students. As a team, discuss ways someone can gain experience in the financial marketplace if someone has limited resources. Be sure to come together as a class and discuss each group's insights.

   Answer: High quality responses should include a thoughtful presentation / discussion of the group's ideas. Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.6; BT: Ap; Difficulty: E; TOT: 15 min; AACSB: C, RT

4. (Writing) Write a short reaction paper about the following statement: "The longer the investment time horizon, the more risk that can be taken." In your paper, include your thoughts about whether you agree with this statement, and what impact the outcome of this statement has on the types of investments someone with a long time horizon should select when building a portfolio.

   Answer: High quality responses should include the student's response to the question posed and what assets are more appropriate for long-term horizons. Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.6; BT: Ap; Difficulty: M; TOT: 25 min; AACSB: C, RT

5. (Group) As you have been learning throughout this book, obtaining a base level of financial literacy is only the starting point in your financial life journey. However, for at least part of your life, you probably won't be making that journey alone. For this assignment, find a partner (e.g., classmate, friend, relative, or significant other) and ask him or her to complete the three questionnaires in this topic. Calculate his or her score and compare it to your own. What does your partner's score tell you about his or her financial readiness? When viewed together, what do your combined scores tell you about how you might work as a team to reach future financial goals?

   Answer: High quality responses should include a discussion of each partners' individual score and the groups collective score. Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.6; BT: Ap; Difficulty: M; TOT: 40 min; AACSB: A, C, RT

Explore

1. (Writing) Conduct an internet search using the following phrase: "personal finance and locus of control." Visit at least three sites that match the search phrase and read the material. Write a brief reaction paper describing your findings. Specifically, does there appear to be a relationship between a person's locus of control and the way household financial resources are managed?

   Answer: High quality responses should clearly address the following question: "Does there appear to be a relationship between a person's locus of control and the way household financial resources are managed? Please refer to the sample writing assignment rubric in the solutions manual.
   LO 2.6; BT: Ap; Difficulty: M; TOT: 60 min; AACSB: C, RT

2. You saw how easy it was for Andi to put together a financial plan—a roadmap to financial goal achievement—in this topic. Use the five-step financial plan development process to create your own

financial plan to meet at least one goal. Your financial goal can be anything you like, including paying down debt, saving for a spring break trip, buying a car or house, planning for retirement, or any other objective that meets the requirements of a SMART goal.

Answer: High quality responses should include a clear plan to reach the students desired goal. Please refer to the sample writing assignment rubric in the solutions manual.
LO 2.6; BT: S; Difficulty: M; TOT: 60 min; AACSB: RT

2.6 Expanded Learning Research

(Writing) As you have been learning throughout this book, obtaining a base level of financial literacy is only the starting point in your financial life journey. You may desire to continue your education into graduate school, start a business, or purchase a home quickly. Thinking of your next major step in your financial journey, develop a financial plan that will map out how you will achieve the financial aspects of your goal. For example, if your next step is to attend graduate school, how much will the schooling cost (tuition, housing, etc.), where will it be, what financial aid (if any) is available, and what will you need to do to be ready for it? If part of your financial plan for graduate school is to take out student loans, how much debt will you require and what will your payments be when it comes time to repay the student loans? Use the internet to answer these questions. Write a two to three-page summary of your financial plan for the next major milestone of your life.

Answer: High quality responses should include a clear conceptualization of the desired outcome or goal as well as a clear plan of action that should be taken to achieve the goal. Please refer to the sample writing assignment rubric in the solutions manual.
LO 2.6; BT: An; Difficulty: H; TOT: 120 min; AACSB: C, RT, A

2.6 Concept Checks

1. Someone who believes that investing is too difficult to understand is likely:
    a. Very risk-tolerant.
    b. Somewhat risk-tolerant.
    c. Risk seeking.
    d. Not at all risk-tolerant.

    ANSWER: d; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

2. How can you improve your financial capacity?
    a. Gain financial experience.
    b. Become overwhelmed with new knowledge.
    c. Hire a professional to manage your financial affairs.
    d. Both a and b.

    ANSWER: a; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

3. Conti has a high sense of control. Which of the following statements is she most likely to strongly agree with?
    a. I am being pushed around in my life.
    b. There is really no way I can solve some of my problems.
    c. What happens to me in the future depends on me.
    d. I feel helpless in dealing with the problems of life.

ANSWER: c; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

4. Before Ethan can build a long-lasting financial plan, he must have all of the following, except:
    a. Some willingness to take financial risk.
    b. The financial knowledge to make informed decisions.
    c. Control over his spending.
    d. A willingness to spend, rather than save, for certain life luxuries.

ANSWER: d; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

5. Choose the correct formula that leads to determining your financial score:
    a. Control+ Risk Tolerance – Time Horizon
    b. Financial Knowledge + Risk Tolerance + Control
    c. Experience – Financial Knowledge + Risk Tolerance
    d. Risk Tolerance + Financial Knowledge - Control

ANSWER: d; LO 2.6; BT: K; Difficulty: E; TOT: 2 min; AACSB: n/a

Chapter 2 Summary Solutions

Continuing Case: Tarek's Financial Journey

In Chapter One, you had a chance to meet Tarek. Beginning with this chapter, you will have an opportunity to assist Tarek as he begins to navigate his financial journey. As you know, Tarek is 26 years old and single, although he is in a committed relationship with his girlfriend Samantha. Let's help Tarek begin his financial journey. Tarek has prepared a monthly budget and a balance sheet for your review. Use this information in these documents to answer the following questions.

Tarek's Personal Monthly Budget

	Budget	Actual
Sources of Income		
Income	$ 3,900	$ 3,900
Interest	$ 90	$ 75
TOTAL INCOME	$ 3,990	$ 3,975
Sources of Expenses		
Taxes	$ 883	$ 883
Rent	$ 850	$ 850
Vehicle Insurance	$ 200	$ 200
Food & Eating Out	$ 290	$ 320

Car Payment	$ 395	$ 395
Student Loans	$ 298	$ 298
Sports & Hobbies	$ 240	$ 300
Phone & Household	$ 100	$ 135
Retirement	$ 156	$ 156
Vacations	$ 300	$ 300
Credit Cards	$ 275	$ 275
TOTAL EXPENSES	$ 3,987	$ 4,112
SURPLUS/DEFICIT		

Tarek's Balance Sheet

	Assets	
Checking	$ 350	
Savings	$ 1,100	
Automobile	$ 11,000	
Motorcycle	$ 3,750	
Furnishings	$ 800	
Clothes	$ 2,100	
Other Household	$ 900	
Sports Equipment	$ 2,500	
Collections	$ 750	
401(k)	$ 19,000	
TOTAL ASSETS		$ 42,250
	Liabilities	
Credit Cards	$ 3,500	
Student Loans	$ 25,900	
Car Loans	$ 3,000	
TOTAL LIABILITIES		$ 32,400

1. How close is Tarek to meeting his monthly spending plan? Is there anything that he can do to improve his situation?
   ANSWER: Tarek's budget has little room for flexibility. He was projecting a surplus of $3 for the month; however, he actually had a deficit of $137 ($3,975 - $4,112). He earned $15 less than expected and spent $125 more than projected. At this point, Tarek need to cut back on some expenses. Areas for consideration include eating out, sports and hobbies, and vacations.
   LO 2.5; BT: An; Difficulty: M; TOT: 10 min; AACSB: A

2. What is Tarek's current net worth situation? How does this compare, in general, to others his age?
   ANSWER: Tarek has a net worth of $9,850 ($42,250 - $32,400). Having a positive net worth, at this age, is a good sign. He is doing better than others his age. Tarek currently has a high balance on student loans. This is an example of "good" debt.
   LO 2.4; BT: An; Difficulty: M; TOT: 10 min; AACSB: A

3. What is Tarek's budgeted savings ratio? Does this meet the guideline discussed in this chapter?
   ANSWER: Based on his budget, Tarek is saving approximately 4% of his income ($156 / $3900). All his savings (excluding the $3 in projected monthly surplus) is in his retirement plan. Overall, Tarek is not meeting the savings guideline presented in the chapter.
   LO 2.5; BT: An; Difficulty: M; TOT: 10 min; AACSB: A

4. How well is Tarek managing his debt at this time? Be sure to calculate the current ratio, debt ratio, debt-to-income ratio, and the long-term debt coverage ratio when answering this question.
   ANSWER: Overall, Tarek is doing an acceptable job managing his debt. His current ratio (41%) should be greater than 1.0. He needs to focus on building the value of his monetary assets while at the same time reducing his credit card debt. When he does this the current debt ratio (.77) will fall. His debt-to-income ratio (17%) is close to the recommended guideline of <15%, while his long-term debt coverage ratio (13.39) exceeds the guideline of 2.50 (his primary long-term debt payment is associated with his student loan).

   Current Ratio: monetary assets / current liabilities or ($350 + $1,100) / $3,500 = .41.
   Debt Ratio: total liabilities / total assets or $32,400 / $42,250 = .77.
   Debt-to-Income Ratio: Consumer Debt Payments / Income or ($395 + $275) / $3900 = .17.
   Long-Term Debt Coverage Ratio: Income / LT Debt Payments or $3,990 / 298 = 13.39.

   LO 2.4, 2.6; BT: An; Difficulty: M; TOT: 10 min; AACSB: A

5. If Tarek were to lose his job, how long could he live, assuming he cut back expenses to those things that were essential in an emergency situation? Has he met the guideline discussed in the chapter?
   ANSWER: The answer to this question is based on calculating the emergency fund ratio. Assuming total expenses less taxes, sport and hobbies, retirement, and vacations, he can meet less than 1 month's worth of emergency expenses (0.60 months). This falls below the recommended guideline of 3 to 6 months. He needs to increase his monetary assets.

Savings Ratio: Monetary Assets / Monthly Living Expenses or ($350 + $1,100) / ($3,987 - $883 - $240 - $156 - $300) = .60.

LO 2.4, 2.5, and 2.6; BT: S; Difficulty: M; TOT: 10 min; AACSB: A

Calculating the Cost of Life's Financial Journey

Theba and Marek have been married for nearly 20 years. They are both 45 years of age and have two children in high school. They are concerned about how to fund their future retirement costs, as well as how to help their children pay for college. Use your skills learned in this chapter to answer the following questions:

a. Assume that Theba and Marek have a combined annual income of $95,000. Also assume that they want to retire at age 67. If inflation—or the annual cost of living—increases by 3% per year, how much will they need to earn at retirement to maintain their current standard of living?
ANSWER: $182,030
SOLUTION: n = 22; i = 3%; pv = $95,000; CPT FV.
LO 2.6; BT: An; Difficulty: M; TOT: 5 min; AACSB: A
SOLUTION: $182,029.82. = [$95,000 * $(1.03)^{22}$]

b. Marek is very interested in purchasing a second home overlooking a mountain lake. He believes that they should buy this home soon, make payments while they are working, use it for vacations, and once they retire, move into the house permanently. If they need a down payment of $35,000, how much do they need to save annually over the next seven years in order to save enough for the down payment? Assume that they can earn 7% on their annual savings.
ANSWER: $4,044
SOLUTION: n = 7; i = 7%; fv = $35,000; CPT PMT.
LO 2.6; BT: An; Difficulty: M; TOT: 5 min; AACSB: A

c. Their daughter, Chyna, is interested in attending a prestigious college. The annual tuition, plus room and board and other fees, is about $65,000 per year. College costs are increasing at a 5% rate per year. The college typically awards scholarships and grants for applicants with a household income of $95,000 equal to 70% of the total cost of college. Help Theba and Marek determine how much college will cost, based on this information and assuming that Chyna is 15 years of age and will start college at age 18:

1. What will be the total cost of college when Chyna starts?

ANSWER: $75,246
SOLUTION: n = 3; i = 5%; pv = $65,000; CPT FV.
LO 2.6; BT: An; Difficulty: M; TOT: 5 min; AACSB: A

2. How much will Theba and Marek need to pay when Chyna starts college?

ANSWER: $22,574
SOLUTION: $75,246 x (1 - .70) or $75,246 x 30%.
LO 2.6; BT: An; Difficulty: M; TOT: 5 min; AACSB: A

3. Based on your answer, how much will they need to save per year starting today in order to fund one year's worth of net college expenses if they can earn 7% APY on their savings?

ANSWER: $7,022
SOLUTION: n = 3; i = 7%; fv = $22,574; CPT PMT.
LO 2.6; BT: An; Difficulty: M; TOT: 5 min; AACSB: A

Planning for the Future

Marie is a senior in college and has just received a job offer with a business that she is excited about working for. Her starting salary will be $40,000 per year. The total amount of taxes (federal, state, FICA, etc.) withheld from her paycheck annually is $8,700, leaving Marie with $31,700 of net income. Marie has a car loan with monthly payments of $150, and she also has a student loan that will have monthly payments of $150. Using this information determine a realistic monthly budget for Marie that allows or to accomplish the following:

1) Meet her current living needs for housing, utilities, phone and internet, transportation, clothing, and other necessary expenses;
2) Repay her debts, and;
3) Prepare for the future.

Based on what you recommend to Marie, will she be able to enjoy her current life style, repay her debts, and prepare for the future? If you could recommend to Marie to do one thing, what would it be?

Answer: Yes, Marie will be able to meet her desired goals. It will be tight, but she should be able to make it work. She will definitely start savings for her future and start increasing the amount of savings over time. Please refer to the sample writing assignment rubric in the solutions manual.
LO 2.6; BT: S; Difficulty: H; TOT: 30 min; AACSB: A