

Methods of Saving

Liberal Arts Mathematics

Assignment Text

Answer the following problems from Section 6.6 of the textbook: 15, 16, 17, 21, 22, 23.

Answer the questions using Mobi OfficeSuite Sheets by following the directions in the Tech Check sections on page 607–609. Answer each question in a new row of the spreadsheet.

For reference, the text of the problems are duplicated below.

In the following exercises, find the future value of the ordinary annuities based on the payment, interest rate, compounding periods and length of time given.

15. The amount of \$150 deposited monthly in an account bearing 4.22% interest compounding monthly for 20 years.

16. The amount of \$500 deposited semi-annually in an account bearing 3.62% interest compounding semi-annually for 30 years.

17. The amount of \$250 deposited quarterly in an account bearing 3.61% interest compounding quarterly for 25 years.

In the following exercises, find the payment per period necessary to reach a specified future value based on the given interest rate, compounding periods per year, and the number of years. Recall, the number of payments per year and the number of compounding periods per year are the same.

21. Future value of \$1,000,000 from an account bearing 3.94% interest compounded monthly for 40 years.

22. Future value of \$500,000 from an account bearing 2.11% interest compounded monthly for 30 years.

23. Future value of \$750,000 from an account bearing 3.27% interest compounded monthly for 25 years.

Answer Key

15. \$56,396.59

16. \$53,419.10

17. \$40,326.82

21. \$858.81

22. \$996.56

23. \$1,619.05

Student Feedback Templates

#15 formula should be =FV(0.0422/12, 20*12,150, 0, 0)

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#16 formula should be $=FV(0.0362/2, 30*2,500, 0, 0)$

#17 formula should be $=FV(0.0361/4, 25*4,250, 0, 0)$

#21 formula should be $=PMT(0.0394/12, 40*12, 0, 1000000, 0)$

#22 formula should be $=PMT(0.0211/12, 30*12, 0, 500000, 0)$

#23 formula should be $=PMT(0.0327/12, 25*12, 0, 750000, 0)$