

feb. 1 Samples

1. Find the future value of an ordinary annuity of \$3,000 annually for two years at 9% annual interest. Find the total interest earned.

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

2. Len and Sharron Smith are saving money for their daughter Heather to attend college. They set aside an ordinary annuity of \$4,000 annually for two years at 7% annual interest. How much will Heather have for college when she graduates from high school in two years? Find the total interest earned.

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

3. Harry Taylor plans to pay an ordinary annuity of \$5,000 annually for three years so he can take a year's sabbatical to study for a master's degree in business. The annual rate of interest is 8%. How much will Harry have at the end of three years? How much interest will he earn on the investment?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

4. Scott Martin is planning to establish a small business to provide consulting services in computer networking. He is committed to an ordinary annuity of \$3,000 annually at 8.5% annual interest. How much will Scott have to establish the business after three years? How much interest will he earn?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

feb. 1 Samples

5. Find the future value of an ordinary annuity of \$6,500 semiannually for seven years at 10% annual interest, compounded semiannually. How much was invested? How much interest was earned?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

6. Pat Lechleiter pays an ordinary annuity of \$2,500 quarterly at 8% annual interest, compounded quarterly, to establish supplemental income for retirement. How much will Pat have available at the end of five years?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

7. Latanya Brown established an ordinary annuity of \$1,000 annually at 7% annual interest. What is the future value of the annuity after 15 years? How much of her own money will Latanya have invested during this time period? By how much will her investment have grown?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

8. You invest in an ordinary annuity of \$500 annually at 8% annual interest. Find the future value of the annuity at the end of 10 years. How much have you invested? How much interest has your annuity earned?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

feb. 1 Samples

9. You invest in an ordinary annuity of \$2,000 annually at 8% annual interest. What is the future value of the annuity at the end of five years? How much have you invested? How much interest has your annuity earned?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

10. Make a chart comparing your results for exercises 8 and 9. Use these headings: Years, Total Investment, Total Interest. What general conclusion might you draw about effective investment strategy?

11. Find the future value of an annuity due of \$12,000 annually for three years at 14% annual interest. How much was invested? How much interest was earned?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

12. Bernard McGhee has decided to establish an annuity due of \$2,500 annually for 15 years at 7.2% annual interest. How much is the annuity due worth after two years? How much was invested? How much interest was earned?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

feb. 1 Samples

13. Find the future value of an annuity due of \$7,800 annually for two years at 8.1% annual interest. Find the total amount invested. Find the interest.

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

14. Find the future value of an annuity due of \$400 annually for two years at 6.8% annual interest compounded annually.

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

15. Find the future value of a quarterly annuity due of \$4,400 for three years at 8% annual interest, compounded quarterly. How much was invested? How much interest was earned?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

16. Find the future value of an annuity due of \$750 semi-annually for four years at 8% annual interest, compounded semiannually. What is the total investment? What is the interest?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

feb. 1 Samples

17. Which annuity earns more interest: an annuity due of \$300 quarterly for one year at 8% annual interest, compounded quarterly, or an annuity due of \$600 semiannually for one year at 8% annual interest, compounded semiannually?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$

18. You have carefully examined your budget and determined that you can manage to set aside \$250 per year. So you set up an annuity due of \$250 annually at 7% annual interest. How much will you have contributed after 20 years? What is the future value of your annuity after 20 years? How much interest will you earn?

$$FV = P \left(\frac{(1+R)^N - 1}{R} \right)$$

$$P = \underline{\hspace{2cm}}$$

$$R = \underline{\hspace{2cm}}$$

$$N = \underline{\hspace{2cm}}$$