

## Compound Interest Worksheets

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

*Calculate the total amount of the investment or total paid in a loan in the following situations:*

1.) Your \$960 got an interest rate of 8.7% which was compounded monthly for 3 years. What is your \$960 worth after 3 years?

Answer:

2.) You invested \$160 for 3 1/2 years at an interest rate of 9% which was compounded semi annually. What is your total value after 3 1/2 years?

Answer:

3.) You were charged 8.8% compounded semi annually on your loan of \$860 for a 9 year term. What total did you pay to borrow the money after 9 years?

Answer:

4.) You invested \$25,000 at 9% compounded monthly for 2 years. After 2 years, what is your \$25,000 worth?

Answer:

5.) You invested \$205 at 8.9% compounded annually for 2 years. What is your \$205 worth after two years.

Answer:

6.) Your mortgage of \$30,000 at an interest rate of 6.3% which was compounded annually for 4 years. What total did you pay after 4 years?

Answer:

7.) You invested \$350 for 2 years which received interest at a rate of 9.2% compounded annually. What is your \$350. worth after 2 years?

Answer:

8.) What is \$200 worth at an interest rate of 9.3% compounded annually for 2 years?

Answer:

9.) What is \$7,000 worth at an interest rate of 8.5% compounded annually for 4 years?

Answer:

10.) Your second mortgage of \$31,200 is at a rate of 10.7% compounded monthly for 8 years. What total will you have paid for your second mortgage after 8 years?

Answer:

## Compound Interest - Investments

Name \_\_\_\_\_

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- 1) \$7000 is invested in an account that pays 3.2%, compounded annually. Determine the value and interest earned after 3 years.
- 2) \$900 is invested in an account that pays 1.95%, compounded annually. Determine the value and interest earned after 15 years.
- 3) \$1000 is invested in an account that pays 4%, compounded annually. Determine the value and interest earned after 15 months.
- 4) \$7000 is invested in an account that pays 3.5%, compounded annually. Determine the value and interest earned after 100 weeks.
- 5) \$500 000 is invested in an account that pays 2.74%, compounded annually. Determine the value and interest earned after 1 day.

Use the rule of 72 to estimate the following questions. (double time =  $\frac{72}{\text{rate}}$ )

- 6) Approximately how long will it take an account that pays 3.7%, compounded annually, to double?
- 7) A compound interest account takes 200 months to double in value. Approximately what percent rate does it pay?

## Working Backwards

- 8) A compound interest account that pays 2.5% interest is worth \$5519.06 after 4 years. How much was invested?
- 9) A compound interest account that pays 1.98% interest is worth \$15880.90 after 11 years. How much was invested?
- 10) \$2000 is invested in a compound interest account. After 5 years, it is worth \$2341.15. Determine its annual compound interest rate.
- 11) \$6000 is invested in a compound interest account. After 14 years, it is worth \$7597.04. Determine its annual compound interest rate.
- 12) Jimmy has \$10 000 he wants to invest for 5 years. Bank A offers him a Simple Interest account that pays 4% interest. Bank B offers him a Compound Interest account that pays 4% interest. Which account will make him more money after 5 years and by how much?
- 13) Jimmy invests \$8000 in an account that pays 1.87% annual compound interest. Years later, it is worth \$8776.50. How many years does it take?

# Compound Interest Worksheets

*Calculate the total amount of the investment or total paid in a loan in the following situations:*

1.) Your \$960 got an interest rate of 8.7% which was compounded monthly for 3 years. What is your \$960 worth after 3 years?

Answer: \$1,245.13

2.) You invested \$160 for 3 1/2 years at an interest rate of 9% which was compounded semi annually. What is your total value after 3 1/2 years?

Answer: \$217.74

3.) You were charged 8.8% compounded semi annually on your loan of \$860 for a 9 year term. What total did you pay to borrow the money after 9 years?

Answer: \$1,866.84

4.) You invested \$25,000 at 9% compounded monthly for 2 years. After 2 years, what is your \$25,000 worth?

Answer: \$29,910.34

5.) You invested \$205 at 8.9% compounded annually for 2 years. What is your \$205 worth after two years.

Answer: \$243.11

6.) Your mortgage of \$30,000 at an interest rate of 6.3% which was compounded annually for 4 years. What total did you pay after 4 years?

Answer: \$38,304.90

7.) You invested \$350 for 2 years which received interest at a rate of 9.2% compounded annually. What is your \$350. worth after 2 years?

Answer: \$417.36

8.) What is \$200 worth at an interest rate of 9.3% compounded annually for 2 years?

Answer: \$238.93

9.) What is \$7,000 worth at an interest rate of 8.5% compounded annually for 4 years?

Answer: \$9,701.01

10.) Your second mortgage of \$31,200 is at a rate of 10.7% compounded monthly for 8 years. What total will you have paid for your second mortgage after 8 years?

Answer: \$73,158.21

## Answers to Compound Interest - Investments

- |                          |                        |                       |                        |
|--------------------------|------------------------|-----------------------|------------------------|
| 1) \$7693.73, \$693.73   | 2) \$1202.41, \$302.41 | 3) \$1050.25, \$50.25 | 4) \$7478.76, \$478.76 |
| 5) \$500 037.03, \$37.03 | 6) 19.5 years          | 7) 4.32%              |                        |
| 8) \$5000                | 9) \$12800             | 10) 3.2%              | 11) 1.7%               |
| 12) Bank B by \$166.53   | 13) 5 years            |                       |                        |