

Apprenticeship Math 12

ASSIGNMENT: Compound Interest

Name: _____

Date: _____

1. Susan borrowed \$5000.00 at 3.0% per annum, compounded annually, for 2 years. How much will she have to pay back at the end of the 2 years?

2. Calculate the final values of the following two investments after 3 years:

- a) \$4000.00 invested at 3.5% per annum, compounded annually

- b) \$4000.00 invested at 3.5% simple interest

3. Calculate how much interest you would pay on a loan of \$8000.00 borrowed at 2.5%, compounded annually, for a term of 5 years.

4. Calculate the final value of an investment of \$4000.00 that earns interest at a rate of 4.0% per annum for 8 years, with the following compounding periods:

a) annual _____

b) semi-annual _____

c) quarterly _____

d) monthly _____

5. What is the difference in the amount of interest you will get on \$10 000.00 deposited at 3.75% per annum for one year if it is compounded annually compared to daily?

6. Tameka deposits \$4000.00 into an investment account that offers 3.0% interest per annum, compounded daily.

a) How much will her investment be worth after 3 years? _____

b) How much will it be worth after 10 years? _____

7. Which is the better investment over 5 years? _____

- Option 1 - An investment that offers a rate of 1.9% per annum, compounded annually.

- Option 2 - An investment that offers a rate of 1.75% per annum, compounded monthly.

8. Use the Rule of 72 to estimate how long it would take the following investments to double in value:

a) \$6000.00 invested at 4.0% per annum, compounded annually _____

b) \$1000.00 invested at 2.45% per annum, compounded annually _____

c) \$1000.00 invested at 1.95% per annum, compounded annually _____

9. If you wanted to double your money in 15 years, at what rate of interest would you need to invest your money? _____

1. \$5304.50
2. a) \$4434.87 b) \$4420
3. \$1051.27
4. a) \$5474.28 b) \$5491.14 c) \$5499.76 d) \$5505.58
5. \$7.10
6. a) \$4376.68 b) \$5399.37
7. Option 1
8. a) 18 years b) about 29 years 5 months (29.4 years) c) almost 37 years
9. 4.8%

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