Compound Interest Review #2 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Hr\_\_\_\_\_\_\_\_\_\_

*Senior Math Applications*

1. Kennedy is planning on depositing a $10,000 inheritance into an investment account. She is trying to figure our what account will give her more money after 30 years of investing.

Investment Account #1: Investment Account #2:

4.25% interest compounded semi-annually 4.25% interest compounded continuously

a. Calculate what Kennedy’s final balance would be for both investment accounts.

b. Why does the account with the higher final balance have more money?

2. What is the most important factor in investing?

3. Derek knows that he needs to get some money in an investment account ASAP! He runs to the bank and determines that he will commit to depositing $1,000 every year for 20 years. The account gets 5% interest compounded annually.

a. How much money will Derek have after the first 20 years?

b. How much more money will Derek have if he lets it ride for 15 more years?

4. How long would it take to triple an investment of $5,000 in an account that gains 6% interest compounded monthly?

5. Eric and Elizabeth are having a girl! They know that college is expensive and they want to be able to help their daughter pay for it. They invest $15,000 into an investment account that gains 5.5% interest compounded continuously.

a. Their goal is to save up $50,000 for their daughter. How long will it take for them to reach their investment goal?

b. What could Eric and Elizabeth do to try to reach the investment goal sooner?

6. Kendra starts working at age 22. Immediately, she begins to deposit $3,000 every year for the first 6 years into an account that gains 6.5% interest compounded annually. Kendra then stopped making deposits and let the money ride for the rest of her 35 year career.

a) Complete the table to represent the investment scenario for the first 10 years of her career.

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| --- | --- | --- | --- |
| Year | Age | Kendra’s Deposits | Kendra’s Balance  b) How much total money did Kendra deposit?  c) Calculate what Kendra’s final balance would be if she worked at total of 35 years.  d) Calculate what Kendra’s balance would be if she continued to make deposits for all 35 years of work. |
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