

Name _____
Mr. Schlansky

Date _____
Algebra II

Compounding Interest Finding P and t

1. Melanie's car is currently worth \$22,000. She bought it 3 years ago and the depreciate rate is compounded continuously at 7%. What was the initial value of the car?

2. Megan's savings account currently has \$5,125 in it. If the account was opened 4 years ago and has an interest rate of 4.3% compounded weekly, how much money was initially put into the account?

3. If the current balance of a bank account is \$4,321 and the account was opened 3 years ago with an interest rate of 3% compounded continuously, what was the initial amount of the account?

4. Manny's savings account has a balance of \$6,391.52. He opened the account with \$5500.00 with a 5.2% interest rate that is compounded quarterly. How many years ago was the account opened?

5. If a bank account was opened with \$3000 and interest is compounded continuously at 5.2%, how much time has passed if there is now \$4000 in the account?

6. Danielle currently has \$2125 in her savings account. If she opened the account with \$1700 and the account has an interest rate of 4.1% that is compounded continuously, how long has the account been open?

7. Mike's bank account has tripled since he opened the account. If he opened the account with \$1000 and interest is compounded monthly at a rate of 8.1%, how much time, to the *nearest year*, has the account been open?

8. The amount of money in Jennifer's bank account has increased by 25% since she opened it. The initial investment was \$4800. If the interest is compounded continuously at a rate of 5.8%, how much time, to the *nearest tenth of a year*, has passed since the account has been opened?

9. The value of a \$24000 car depreciates at a rate of 11% per year annually. After how many years will the car be worth 30% of its original value? Round your answer to the *nearest year*.

10. Joe Manana just opened a bank account with a \$2000 initial balance. If the interest is compounded quarterly at a rate of 6.7%, how long would it take for his money to double?

11. Jeff opened a bank account with a principal balance of \$2000. Interest is compounded monthly at a rate of 1.4%. After how many years, to the *nearest tenth of a year*, will it take for Jeff's account to increase by 50%?

12. Seth's parents gave him \$5000 to invest for his 16th birthday. He is considering two investment options. Option *A* will pay him 4.5% interest compounded annually. Option *B* will pay him 4.6% compounded quarterly. Algebraically determine, to the *nearest tenth of a year*, how long it would take for option *B* to double Seth's initial investment.