

Class investigation

This lesson has been designed for students studying the financial maths component of General Maths and who are using Casio 9850GBPLUS graphic calculators. The lesson design assumes that a teacher will be facilitating the learning and guiding students through the questions.

Jane's inheritance

Jane has inherited \$10 000 from her great aunt and she has decided to invest the money at 6%p.a. annually compounding interest for 3 years.

1. How much interest will Jane earn in 3 years? Remember to include the values you substituted into your calculator in your answer.
2. Jane would like the future value of the money to be \$12 500. How long will she need to invest the \$10 000 @ 6%p.a. annually compounding, for it to grow to \$12 500?
3. If Jane invests the \$10 000 @ 6%p.a. monthly compounding interest for 3 years, instead of annually compounding interest, how much extra interest will she earn?
4. If Jane invests the \$10 000 at 6%p.a. daily compounding interest for 3 years, how much more interest will she earn than annually compounding interest at 6%p.a.?
5. What annual rate of compounding interest will make \$10 000 grow to the same amount over 3 years as 6%p.a. daily compounding interest?
6. For the same annual interest rate, how does the length of the compounding period effect the amount of interest earned?
7. Some people incorrectly think that interest compounded monthly is always better than interest compounding annually. Use your calculator to determine which of these investments gives more interest:
 - (a) Investing \$10 000 at 5.3%p.a. annually compounding for 5 years
 - (b) Investing \$10 000 at 5.1%p.a. monthly compounding for 5 years.
8. Imagine you are a bank manager and you are setting up some investment accounts. Investment interest rates are around 5.6%p.a. What interest rates would you pay on accounts that pay interest annually, monthly and fortnightly? Give calculations (calculator entries) and reasons to support your decisions.®

