

MA 162 - Finite Math
Introduction & Time Value of Money

1. Compute the following expressions using your calculator, and be sure to include at least 3 decimal places in your answer.

a.) $1000 \cdot (1 + 0.06)^{12}$ b.) $\frac{0.08 \cdot (12,000)}{(1 + 0.08)^{20} - 1}$ c.) $200 \cdot \left[\frac{\left(1 + \frac{0.07}{12}\right)^{36} - 1}{\frac{0.07}{12}} \right]$

2. Cindy was 4.75 feet tall at age 12. During the next 3 years, she grew 7 centimeters. How tall was she at age 15 in inches? Recall that there are approximately 2.54 centimeters in an inch.
3. The distance between Earth and Alpha Centauri is 4.367 light years. The distance between Earth and Sirius is 2.6 parsecs. Note that 1 parsec is approximately equal to 3.262 light years.
- (a) Is Earth closer to Alpha Centauri or to Sirius?
- (b) An alien flies his space ship from Alpha Centauri to Earth and then from Earth to Sirius. What is the total distance that he travels?
4. In 2006, Bob deposits \$100 into a bank account that doubles in value every two years. The same year, Ann deposits \$50 into a similar account, and she continues to deposit \$50 into this account every two years. Use the following chart to determine how much money Bob and Ann have in 2014. Based on your answers, do you think Ann's account will ever have more money than Bob's?

	2006	2008	2010	2012	2014
Bob					
Ann					

5. Suppose your luck finally pays off, and you win \$100,000 from a lottery ticket. You can receive either \$50,000 right now or \$20,000 per year over the course of the next 5 years. Which option should you take and why?