

Before we begin, are there any questions from last day's work?
pp.352-353 #1(a,c),2(i,iii),3(a,b,c),4(a,b),5(a,b,c),Blue(a,b,d),9(b,c)

"Show What You Know: 1.3" is first...

Today's Learning Goal(s):

By the end of the class, I will be able to:

- a) review all ideas for the unit summative.

Today's work

pp. 393-394 #1, 3-6, 7b, 8, 10(a,b) Challenge Problem #15

Please submit the homework sheet 1.8.2, with your name on the top.

3c

- B** 3. In 1995, the population of Calgary was 828 500, and was increasing at the rate of 2.2% per year.
- a) Write an equation to represent the population of Calgary, P , as a function of the number of years, y , since 1995.
- b) Calculate how many years it would take for the population to double.
- c) Calculate when the population could become 1 million.

$$a) P = P_0(1+r)^n$$

$$= 828500(1+0.022)^y$$

$$c) 1000000 = 828500(1.022)^y$$

$$\log\left(\frac{1000000}{828500}\right) = y \log(1.022)$$

$$\therefore y = \frac{\log\left(\frac{1000000}{828500}\right)}{\log 1.022}$$

$\therefore y \approx 8.6$
 \therefore from 1995
the population could reach 1M by 2003.

5b

5. Calculate the number of years for an investment of \$1000 to double at an interest rate of 7.2% for each compounding period.

- a) annually b) semi-annually c) monthly d) daily

$$A = 2000$$

$$P = 1000$$

$$i = \frac{0.072}{2}$$

$$n = 2t$$

$$A = P(1+i)^n$$

$$2000 = 1000\left(1 + \frac{0.072}{2}\right)^{2t}$$

$$\log 2 = 2t \log(1.036)$$

$$\frac{\log 2}{2 \log 1.036} = t$$

$$t \approx 9.79$$

$$\approx 9.8 \text{ years}$$