Some formulas to know for Exam 2:

Chapter 4

Section 4B:

Interest compounded *n* times a year:

$A = P\left(1 + \frac{APR}{n}\right)^{(nY)}$ page 235

$APY = \left(1 + \frac{APR}{n}\right)^{n} - 1$ The definition is given on page 237 (formula given in class).

Interest compounded continuously:

$A = P\,e^{(APR \times Y)}$ page 239

$APY = e^{APR} - 1$ The definition is given on page 237 (formula given in class).

Section 4C:

$\text{total return} = \frac{(A - P)}{P}$ page 253

$\text{annual return} = \left(\frac{A}{P}\right)^{(1/Y)} - 1$ page 253

Note: The Savings Plan Formula (page 247) will be given on the exam, but be sure to know how the variables are defined.

Section 4D:

The Loan Payment Formula (page 271) will be given on the exam, but be sure to know how the variables are defined.

Chapter 8

Section 8B:

$Q = Q_0 \times 2^{t/T_{\text{double}}}$ page 524 (with notation from section 9C)

$Q = Q_0 \times \left(\frac{1}{2}\right)^{t/T_{\text{half}}}$ page 528 (with notation from section 9C)

$T_{\text{double}} = \frac{\log_{10} 2}{\log_{10}(1 + r)}$ page 530

$$T_{\text{half}} = -\frac{\log_{10} 2}{\log_{10}(1+r)}$$ page 530

Properties of logarithms: page 531 (some of these were only given in class)

$$\log_b b^x = x$$

$$b^{\log_b x} = x$$

$$\log_b xy = \log_b x + \log_b y$$

$$\log_b a^x = x \log_b a$$

$$\log_b \frac{x}{y} = \log_b x - \log_b y$$

$$\log_b \frac{1}{x} = -\log_b x$$

$$\log_b 1 = 0$$

$$\log_b b = 1$$

Chapter 9

Section 9B:

$$m = \text{rate of change} = \text{slope} = \frac{\text{change in dependent variable}}{\text{change in independent variable}} = \frac{y_2 - y_1}{x_2 - x_1}$$ page 572

$$y = mx + b$$ page 577

Section 9C:

$$Q = Q_0 \times (1+r)^t$$ page 587