

Midterm II: Some problems for review

The exam will be taken at the Testing Center during 11/06 - 11/07. At the Testing Center, you go to Canvas and navigate to Midterm II in Week 11 module. Then you will be directed to MyLab Math. It will ask you for an access code. The proctor will give you the code.

The material covered is Section 4A-4D, 5A-5E. It is a closed book exam. You can bring the cheat sheet handed to you in class. *Don't write anything on it!* It will be collected when you finish the exam. A scientific calculator is allowed. Graphing/programmable/transmittable calculators are not allowed. Phones are not allowed. You should review the homework problems, worksheets, quizzes, examples given in the lectures. It is always a good idea to study for the exam with someone. Some problems to practice:

1) Melinda spends an average of \$35 per week on gasoline and \$50 every three months on a daily newspaper. Find the average *monthly* expense. Assume that there are 4 weeks in each month.

2) You deposit \$800 in an account with an annual interest rate of 5%. Calculate the amount of money you will have in each account after 5 years, assuming that the account earns simple interest.

3) A bank offers an APR of 3.2% compounded monthly. Find the annual percentage yield (to the nearest 0.01%).

4) A bank offers an APR of 3.2% compounded continuously. You deposit \$2000 in your saving account. Find the balance in 40 months.

5) At age 35, you start saving for retirement. If your investment plan pays an APR of 6% and you want to have \$1 million when you retire in 30 years, how much should you deposit monthly?

6) Which of the following investment methods will give more money at the end of 5 years?

Method 1: monthly deposit of \$100 and APR = 7.2%

Method 2: one-time deposit of \$20,000 and APR = 6%

7) You invest \$5000 in a company by purchasing stocks. Over 5 years, you sell them for \$6000. Find the total return and annual return.

8) A Kirby vacuum cleaner is sold at \$1,500 with a payment plan of 5 years at a fixed monthly interest rate of 1%. Find the monthly payment.

9) Among the registered voters in a certain county, 25% are Democrats, 25% are Republicans, 40% are Independents, and 10% are non-affiliated. Construct a pie chart to represent the party affiliations.

$$A = Pe^{APR \cdot n}$$

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

$$A = p \frac{(1+i)^n - 1}{i}$$

$$\frac{A - P}{P}$$

$$P(1 + APY)^Y = A$$

$$\frac{\text{annual interest payment}}{\text{current price of bond}}$$

$$\mathbf{P} = \frac{p}{i} \left(1 - \frac{1}{(1+i)^n} \right)$$