

MATH100
Due October 28, 2009
Total 100

Show all work legibly.

1. (30) Explain

- (10) Explain **compound interest**.

- (10) Explain **effective annual rate**.

- (10) Explain **present value** of the amount to be paid in the future.

2. (20) If \$1,000 is deposited at an annual interest rate of 10% compounded

- (10) yearly, what is the effective annual rate?

- (10) daily, what is the effective annual rate?

3. (10) A principal P is deposited in an account that pays interest at rate r per compounding period. Provide the formula for the amount A that the account will contain after n compounding periods.

4. (40) A student saves \$100 per month deposited directly into his credit union bank account at the last day of the month for the next 60 months (5 years). The account earns 1.8% per year compounded monthly. Each monthly \$100 deposit contributes to the amount that will be accumulated at the account 60 months later.

- (10) How much will the first deposit (made at the end of the first month) contribute to the final amount?

- (10) How much will the last deposit (made at the end of the sixtieth month) contribute to the final amount?

- (10) How much will the deposit made at the end of the n th month contribute to the final amount?

- (10) How much will the account hold at the end of 5 years?