Name: _____ Date: _____

BLM 8–7

Section 8.3 Present Value

1. Evaluate. Round to two decimal places.
a) $1750(1.025)^{-11}$ **b)** $810(1.04)^{-6}$
c) $5000(1.09)^{-15}$ **d)** $2225(1.14)^{-9}$

2. Determine the present value of each amount.
a) $8000 needed in 5 years, invested at 8% per year, compounded semi-annually
b) $995 needed in 8 years, invested at 10% per year, compounded quarterly
c) $1225 needed in 14 years, invested at 6% per year, compounded monthly
d) $3800 needed in 3 years, invested at 4% per year, compounded annually

3. At the end of 5 years, after being charged interest at 3% per year, compounded monthly, Simon had to pay $10 135.11. How much did Simon originally borrow?

4. Sung Yi and Kwan want to give their newborn daughter $50 000 on her 25th birthday. They are planning to invest in a fund that has an annual rate of 5.5%, compounded quarterly. How much do they need to invest today?

5. How much should Shaneese invest today in an investment that will pay 6% per year, compounded semi-annually, to have $6000 in 4 years?

6. Jeremy wants to pay off his $12 000 loan early. It is due in 6 years. His banker is willing to discount the loan at 4% per year, compounded monthly. How much would the banker be willing to accept today to pay off the loan?

7. A financial institution is willing to discount a $35 000 loan by 4.4% per year, compounded semi-annually. The loan was originally due in 5 years.
a) How much will need to be paid today to pay off the loan?
b) How much is the discount?

8. Lucy received $4300 as a graduation gift. She wants to invest this money and some of her savings in a savings plan that offers 4.8% per year, compounded quarterly. She would like to have $20 000 after 20 years.
a) How much does Lucy need to invest today to reach her goal?
b) How much money does Lucy need to add from her savings?

9. Julianne is purchasing a used vehicle from a car dealer. The dealer offers her two payment options.
Plan A: pay $3750 now
Plan B: pay a $1500 down payment now and $2450 in one year.
If current interest rate is 4% per year, compounded semi-annually, which plan is the better deal? Explain.

10. Jessie lent his brother an amount of money that is to be paid back as follows: $800 in one year, $900 in two years, $1000 in three years, and $1100 in four years. If interest is 6% per year, compounded semi-annually, what is the combined amount of the loan today?

11. Determine the number of years between the start of the loan and the repayment of the loan in each situation. Hint: Use guess and check.
a) $3426.65 was repaid for a loan of $2300 at 8% per year, compounded monthly.
b) $67 132.72 was repaid for a loan of $55 250 at 6.6% per year, compounded semi-annually.