

Mth 21, Homework 7 on section 5.1

Due by Wed, Nov 19.

Please use lots of space and explain your answers, showing clearly any work you had to do. Each question is worth 3 points.

Section 5.1 Simple interest

(1) Convert these percentages to decimals:

(a) 30% (b) 3.1% (c) $5\frac{1}{4}\%$

(2) Find the simple interest earned on \$3400 invested for 5 years at 2%.

(Hint: use $I = Prt$ and your answer should be close to \$300.)

(3) Find the simple interest on \$500 borrowed for 300 days at 6.5%.

(4) If \$10 000 is invested for 8 years earning 4% simple interest, what is it worth at the end?

(Hint: use $FV = P + I = P(1 + rt)$.)

(5) How much should be invested now, at $3\frac{3}{4}\%$ simple interest, so that it is worth \$8000 in 2 and a half years time?

(6) Your credit card charges 20% interest. For a billing cycle Apr 15 through May 14 you have a balance of \$120 at the beginning and pay off \$60 on Apr 20. On May 5 you make a \$200 purchase on the card.

Use these steps to compute the card's finance charge:

(a) From Apr 15 through Apr 19 the balance is \$120 (that's 5 days). Find the balances for Apr 20 through May 4 and May 5 through May 14, and how many days in each.

(b) Use part (a) to find P , the average daily balance. (Near \$140.)

(c) The finance charge is the simple interest on this. (A bit more than \$2.)

If you get stuck on a question or aren't sure if you understand it:

- Go over the relevant class notes and section in the textbook.
- Check if you get the right answer for a similar odd-numbered question in the textbook (answers at the back of the book).
- Ask me about it after class.
- Come to my office hours: Mon 11:30 - 12:30, Wed 11:30 - 12:30 in CP 317.
- Go to the Math Tutorial Lab in-person in CP 303 or online.