

Chapter 10 Exam

Name: _____

MA111-009

2011-03-04

Part I. Numbers

1. What is 4500 plus 12?

How do you write it out in words?

2. Which is bigger, 91 or 19?

Which is bigger, 111 or 22?

3. What is $\frac{3}{4}$ of 4?

What is $\frac{3}{4}$ of 40?

4. Which is bigger, 0.1 or 0.987654321?

Which is bigger, 0.9 or 0.123456789?

5. Which is bigger, $\frac{1}{2}$ or $\frac{3}{8}$?

Which is bigger, $\frac{1}{4}$ or $\frac{7}{8}$?

6. What is $\frac{13}{51}$ of 51?

What is $\frac{13}{51}$ of 510?

7. Which is bigger, $\frac{1}{2}$ or 35%?

Which is bigger, $\frac{1}{2}$ or 90%?

8. What is 88% of \$100?

What is 88% of 100%?

9. What is 88% of \$50?

What is 88% of 50%?

10. What is 88% of 50% of \$100?

Part II. Simple interest

1. A friend pawns their iPod for \$25 plus 2% interest and a \$5 processing fee, due in one month. If the full loan is not repaid in one month, it can be renewed for another month by paying the interest and the processing fee. If even that is not paid, then the loan goes into default, and a second month of interest is charged (another 2%). If the full amount is not paid in under 30 days, the pawn shop forgives all of the money, but keeps the iPod. (used price is \$75, so pawn shop offers a \$25 loan)

(a) How much would your friend owe at the end of one month?

(b) If he only paid the interest and fee, how much would he owe at the end of the next month? Be sure to show your work.

(c) If he paid nothing, how much would he owe in order to get his iPod back?

(d) If he paid nothing, how much would he pay for his iPod in four months?

2. A friend loans their Uncle Sam a \$1000, but expects 7% simple interest per year. Your friend and his uncle go way back, so he figures Sam should pay him back in 10 years, the original amount plus all the interest.

(a) How much should Sam pay your friend back?

(b) His uncle has a strange sense of humor, and lets your friend know about the 14% tax on the interest that Sam gets to keep. How much will Sam end up paying to your friend after tax?

Part III. Compound Interest

1. Harley, Marley, and Charlie do contract construction, destruction, and short-term loans.

(a) Harley loans you \$100 at 2% per month interest, for one month. How much do you owe at the end of the month?

(b) You don't have any money at the end of that month either, so you borrow the whole amount from part (a) from Marley at 2% per month interest, for one month. You use it to pay off Harley, so you're square, but how much will you owe Marley at the end of the month?

(c) You still don't have any money at the end of that month either, so you borrow the whole amount from part (b) from Charlie at 2% per month, for one month. You use it to pay off Marley, so you are square with Harley and Marley, but how much will you owe Charlie at the end of the month?

(d) Suppose you use the three brothers for another three months. How much will you owe Charlie at the end of the three months?

(e) Suppose you use the three brothers for a two years. How much do you owe after 24 months?

Part IV. Amortized Loans

1. Suppose you desperately need to borrow \$100.00, and your good friend Lenny the Shark (a.k.a. Lenny the Lemora) offers to loan it to you for a mere 5% interest per week. It seems a little high, but you decide that you are going to pay him back \$10 each week, so it should only take like ten weeks or something, so no big deal.

(a) After one week, you owe \$100.00 plus 5% interest. That is:

(b) But you pay him back \$10, so you only owe him:

(c) The next week, you only had the amount from part (b) past due, so you owe him that plus 5% interest. That is:

(d) But you pay him back \$10, so you only owe him:

(e) How much do you owe him after you've paid him \$100?

(f) How much do you need to pay each week to get it paid off in ten weeks?