Chapter 4 Conceptual Questions

You should answer the following multiple choice questions without doing any calculations. Absolutely no calculations. These are practice questions to double check you understand the concepts, not questions for you to work on the calculations, if you need to do calculations to answer these, it means you need to work on understanding the concept(s) better.

1. The future value annuity factor $s_{48|0.03/12}$ should be...
   (a) Less than 48
   (b) Exactly 48
   (c) More than 48

2. The present value annuity factor $a_{48|0.03/12}$ should be...
   (a) Less than 48
   (b) Exactly 48
   (c) More than 48

3. Which is larger $s_{40|0.03/4}$ or $a_{40|0.03/4}$?

4. Which is larger $s_{40|0.03/4}$ or $s_{50|0.03/4}$? (different $n$)

5. Which is larger $s_{40|0.03/4}$ or $s_{40|0.05/4}$? (different $i$)

6. Which is larger $a_{40|0.03/4}$ or $a_{40|0.03/4}$? (different $n$)

7. Which is larger $a_{40|0.03/4}$ or $a_{40|0.05/4}$? (different $i$)

8. Billy took out a car loan for $10,000, and will repay it over 5 years at 6% interest. Bob took out a car loan for $10,000, and will repay it over 3 years at 6% interest.
   (a) Who will pay more in interest, Billy or Bob?
   (b) Who will have higher monthly payments, Billy or Bob?

9. Betty took out a car loan for $10,000, and will repay it over 4 years at 6% interest. Brittany took out a car loan for $10,000, and will repay it over 4 years at 8% interest.
   (a) Who will pay more in interest, Betty or Brittany?
   (b) Who will have higher monthly payments, Betty or Brittany?
10. Bayley took out a car loan for $10,000, and will repay it over 4 years at 6% interest. Blair took out a car loan for $15,000, and will repay it over 4 years at 6% interest.

(a) Who will pay more in interest, Bayley or Blair?
(b) Who will have higher monthly payments, Bayley or Blair?

11. Carla started a savings account, where she earned 1% interest. Each week she deposited $10 into the account. (Note $10 \times 52 = $520). At the end of 1 year she will have....

(a) Less that $520 in the account.
(b) Exactly $520 in the account.
(c) More that $520 in the account.

12. Christa took out a 1-year loan where her interest was 1%. Each week her loan payments were $10. (Note $10 \times 52 = $520). The amount of money Christa borrowed was...

(a) Less that $520.
(b) Exactly $520.
(c) More that $520.

13. Darrel borrowed $10,000 in a 5 year loan (you don’t know exactly what his interest rate is). His monthly payments worked out to exactly $200 a month. (So in the first year, Darrel paid $200 \times 12 = $2400 in payments.)

After 1 year the remaining balance on his loan is....

(a) Less than $10,000 − $2400 = $7600
(b) Exactly $10,000 − $2400 = $7600
(c) More than $10,000 − $2400 = $7600

14. Devin decided he needed to open a savings account so that we would have $10,000 saved up in 5 years (you don’t know exactly what his interest rate is). He will make monthly payments (5 years of monthly payments is 60 payments.)

His monthly payments will be...

(a) Less than $10,000/60 = $166.67
(b) Exactly $10,000/60 = $166.67
(c) More than $10,000/60 = $166.67

15. Ezra plans on saving $875,000 in a 401(k) for when he retires (in 43 years). Every other week, $81.50 is deducted from is paycheck and deposited into the 401(k). If the interest rate on the 401(k) account decreases, Ezra will need to...

(a) Decrease his every other weekly payments to meet his $875,000 in 43 years goal.
(b) Increase his every other weekly payments to meet his $875,000 in 43 years goal.