7. –/1 pointsBerrFinMath1 2.1.007.

Find the term of a loan of $400 at 3.5% if the simple interest is $56.

[ ] yr

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

8. –/1 pointsBerrFinMath1 2.1.008.

How much should be invested now at 5.5% simple interest if $8325 is needed in 2 years?

$ [ ]

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

9. –/2 pointsBerrFinMath1 2.2.001.

Determine the amount due on the compound interest loan. (Round your answers to the nearest cent.)

$15,000 at 4% for 15 years if the interest is compounded in the following ways.

(a) annually

$ [ ]

(b) quarterly

$ [ ]

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

10. –/2 pointsBerrFinMath1 2.2.003.

Calculate the present value of the compound interest loan. (Round your answers to the nearest cent.)

$21,000 after 8 years at 5% if the interest is compounded in the following ways.

(a) annually

$ [ ]

(b) quarterly

$ [ ]

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

11. –/1 pointsBerrFinMath1 2.2.005.

Find the term of the compound interest loan. (Round your answer to two decimal places.)

3.9% compounded quarterly to obtain $8700 from a principal of $2000.

[ ] yr

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

12. –/2 pointsBerrFinMath1 2.2.007.

Use the "rule of 72" to estimate the doubling time (in years) for the interest rate, and then calculate it exactly. (Round your answers to two decimal places.)

4% compounded annually.

"rule of 72" ____ yr

exact answer ____ yr

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

13. –/2 pointsBerrFinMath1 2.2.008.

Use the "rule of 72" to estimate the doubling time (in years) for the interest rate, and then calculate it exactly. (Round your answers to two decimal places.)

7.9% compounded weekly.

"rule of 72" ____ yr

exact answer ____ yr

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

14. –/1 pointsBerrFinMath1 2.2.009.

Find the effective rate of the compound interest rate or investment. (Round your answer to two decimal places.)

22% compounded monthly. [*Note*: This rate is a typical credit card interest rate, often stated as 1.8% per month.]

____ %

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

15. –/1 pointsBerrFinMath1 2.2.010.

Find the effective rate of the compound interest rate or investment. (Round your answer to two decimal places.)

A $60,000 zero-coupon bond maturing in 9 years and selling now for $42,035.

____ %

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

16. –/1 pointsBerrFinMath1 2.2.012.

You have just received $135,000 from the estate of a long-lost rich uncle. If you invest all your inheritance in a tax-free bond fund earning 6.3% compounded quarterly, how long do you have to wait to become a millionaire? (Round your answer to two decimal places.)

____ yr

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

17. –/1 pointsBerrFinMath1 2.2.013.

The Second Peoples National Bank offers a long-term certificate of deposit earning 6.23% compounded monthly. Your broker locates a $20,000 zero-coupon bond rated AA by Standard & Poor's for $6965 and maturing in 14 years. Which investment will give the greater rate of return?

- ○ The Second Peoples National Bank offers a better rate of return.
- ○ The zero-coupon bond offers a better rate of return.

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

18. -/1 pointsBerrFinMath1 2.2.014.

You have just won $190,000 from a lottery. If you invest all this amount in a tax-free money market fund earning 6% compounded weekly, how long do you have to wait to become a millionaire? (Round your answer to two decimal places.)

[ ] yr

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

19. -/1 pointsBerrFinMath1 2.3.001.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

Find the accumulated amount of the annuity. (Round your answer to the nearest cent.)

$1500 annually at 6% for 10 years.

$ [ ]

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

20. -/1 pointsBerrFinMath1 2.3.002.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

Find the accumulated amount of the annuity. (Round your answer to the nearest cent.)

$2000 monthly at 6.2% for 20 years.

$ [ ]

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

21. -/1 pointsBerrFinMath1 2.3.003.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

Find the required payment for the sinking fund. (Round your answer to the nearest cent.)

Monthly deposits earning 6% to accumulate $4000 after 10 years.

$ [ ]

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

22. -/1 pointsBerrFinMath1 2.3.004.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

Find the required payment for the sinking fund. (Round your answer to the nearest cent.)

Yearly deposits earning 12.1% to accumulate $3500 after 12 years.

$ [ ]

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

23. –/1 pointsBerrFinMath1 2.3.006.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

Find the amount of time needed for the sinking fund to reach the given accumulated amount. (Round your answer to two decimal places.)

$245 monthly at 5.7% to accumulate $25,000.

[ ] yr

Need Help? Read It Talk to a Tutor

Show My Work (Optional)

24. –/2 pointsBerrFinMath1 2.3.007.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

An individual retirement account, or IRA, earns tax-deferred interest and allows the owner to invest up to $5000 each year. Joe and Jill both will make IRA deposits for 30 years (from age 35 to 65) into stock mutual funds yielding 9.4%. Joe deposits $5000 once each year, while Jill has $96.15 (which is 5000/52) withheld from her weekly paycheck and deposited automatically. How much will each have at age 65? (Round your answer to the nearest cent.)

Joe $ [ ]

Jill $ [ ]

Need Help? Read It Watch It Talk to a Tutor

Show My Work (Optional)

25. –/1 pointsBerrFinMath1 2.3.008.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

How much must you invest each month in a mutual fund yielding 14.9% compounded monthly to become a millionaire in 10 years? (Round your answer to the nearest cent.)

$ [ ]

Need Help? Read It Talk to a Tutor

Show My Work (Optional)

26. –/1 pointsBerrFinMath1 2.3.009.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

The Oseola McCarty Scholarship Fund at the University of Southern Mississippi was established by a $150,000 gift from an 87-year-old woman who had dropped out of sixth grade and worked for most of her life as a washerwoman. How much would she have had to save each week in a bank account earning 3.5% compounded weekly to have $150,000 after 75 years? (Round your answer to the nearest cent.)

$ [ ]

Need Help? Read It Talk to a Tutor

Show My Work (Optional)

27. –/1 pointsBerrFinMath1 2.3.010.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

You and your new spouse each bring home $1500 each month after taxes and other payroll deductions. By living frugally, you intend to live on just one paycheck and save the other in a mutual fund yielding 7.79% compounded monthly. How long will it take to have enough for a 20% down payment on a $165,000 condo in the city? (Round your answer to two decimal places.)

[ ] yr

Need Help? Read It Watch It Talk to a Tutor

Show My Work (Optional)

28. -/1 pointsBerrFinMath1 2.4.002.

Calculate the present value of the annuity. (Round your answer to the nearest cent.)

$1400 monthly at 6.4% for 30 years.

$ [ ]

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

29. -/1 pointsBerrFinMath1 2.4.003.

Determine the payment to amortize the debt. (Round your answer to the nearest cent.)

Monthly payments on $140,000 at 4% for 25 years.

$ [ ]

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

30. -/1 pointsBerrFinMath1 2.4.004.

Determine the payment to amortize the debt. (Round your answer to the nearest cent.)

Quarterly payments on $11,500 at 3.7% for 6 years.

$ [ ]

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

31. -/1 pointsBerrFinMath1 2.4.005.

Find the unpaid balance on the debt. (Round your answer to the nearest cent.)

After 7 years of monthly payments on $150,000 at 3% for 25 years.

$ [ ]

Need Help? Read It | Talk to a Tutor

Show My Work (Optional)

32. -/1 pointsBerrFinMath1 2.4.007.

The super prize in a contest is $10 million. This prize will be paid out in equal yearly payments over the next 10 years. If the prize money is guaranteed by AAA bonds yielding 3% and is placed into an escrow account when the contest is announced 1 year before the first payment, how much do the contest sponsors have to deposit in the escrow account? (Round your answer to the nearest cent.)

$ [ ]

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

33. -/2 pointsBerrFinMath1 2.4.009.

Just before his first attempt at bungee jumping, John decides to buy a life insurance policy. His annual income at age 30 is $35,000, so he figures he should get enough insurance to provide his wife and new baby with that amount each year for the next 35 years. If the long-term interest rate is 6.9%, what is the present value of John's future annual earnings? (Round your answer to the nearest cent.)

$ [ ]

Rounding up to the next $50,000, how much life insurance should he buy? (Round your original answer to the nearest $50,000.)

$ [ ]

Need Help? Read It | Watch It | Talk to a Tutor

Show My Work (Optional)

34. -/1 pointsBerrFinMath1 2.4.010.

A MasterCard statement shows a balance of $590 at 13.1% compounded monthly. What monthly payment will pay off this debt in 1 year 10 months? (Round your answer to the nearest cent.)

$ [ ]

Need Help? Read It Talk to a Tutor

Show My Work (Optional)

1. –/1 pointsBerrFinMath1 2.1.001.

Find the simple interest on the loan.

$1600 at 7% for 10 years.

$ [ ]

Show My Work (Optional)

---

2. –/1 pointsBerrFinMath1 2.1.003.

Find the total amount due for the simple interest loan.

$1500 at 8% for 10 years.

$ [ ]

Show My Work (Optional)

---

3. –/1 pointsBerrFinMath1 2.1.005.

Find the interest rate on a loan charging $627 simple interest on a principal of $2750 after 6 years.

[ ] %

Show My Work (Optional)

---

4. –/1 pointsBerrFinMath1 2.1.007.

Find the term of a loan of $600 at 3.5% if the simple interest is $42.

[ ] yr

Show My Work (Optional)

---

5. –/2 pointsBerrFinMath1 2.2.001.

Determine the amount due on the compound interest loan. (Round your answers to the nearest cent.)

$13,000 at 3% for 10 years if the interest is compounded in the following ways.

(a) annually

$ [ ]

(b) quarterly

$ [ ]

Show My Work (Optional)

---

6. –/2 pointsBerrFinMath1 2.2.003.

Calculate the present value of the compound interest loan. (Round your answers to the nearest cent.)

$28,000 after 6 years at 5% if the interest is compounded in the following ways.

(a) annually

$ [ ]

(b) quarterly

$ [ ]

Show My Work (Optional)

---

7. –/1 pointsBerrFinMath1 2.2.005.

Find the term of the compound interest loan. (Round your answer to two decimal places.)

5.9% compounded quarterly to obtain $8500 from a principal of $2000.

[ ] yr

Show My Work (Optional)

Use the "rule of 72" to estimate the doubling time (in years) for the interest rate, and then calculate it exactly. (Round your answers to two decimal places.)

3% compounded annually.

"rule of 72" ____ yr

exact answer ____ yr

Show My Work (Optional)

---

9. -/1 pointsBerrFinMath1 2.2.009.

Find the effective rate of the compound interest rate or investment. (Round your answer to two decimal places.)

19% compounded monthly. [*Note*: This rate is a typical credit card interest rate, often stated as 1.6% per month.]

____ %

Show My Work (Optional)

---

10. -/1 pointsBerrFinMath1 2.2.011.

Since 2007, a particular fund returned 13.6% compounded monthly. How much would a $6000 investment in this fund have been worth after 3 years? (Round your answer to the nearest cent.)

$ ____

Show My Work (Optional)

---

11. -/1 pointsBerrFinMath1 2.3.001.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

Find the accumulated amount of the annuity. (Round your answer to the nearest cent.)

$5500 annually at 6% for 10 years.

$ ____

Show My Work (Optional)

---

12. -/1 pointsBerrFinMath1 2.3.003.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

Find the required payment for the sinking fund. (Round your answer to the nearest cent.)

Monthly deposits earning 4% to accumulate $3000 after 10 years.

$ ____

Show My Work (Optional)

---

13. -/1 pointsBerrFinMath1 2.3.005.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

Find the amount of time needed for the sinking fund to reach the given accumulated amount. (Round your answer to two decimal places.)

$4500 yearly at 8% to accumulate $100,000.

____ yr

Show My Work (Optional)

---

14. -/2 pointsBerrFinMath1 2.3.007.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

An individual retirement account, or IRA, earns tax-deferred interest and allows the owner to invest up to $5000 each year. Joe and Jill both will make IRA deposits for 30 years (from age 35 to 65) into stock mutual funds yielding 9.2%. Joe deposits $5000 once each year, while Jill has $96.15 (which is 5000/52) withheld from her weekly paycheck and deposited automatically. How much will each have at age 65? (Round your answer to the nearest cent.)

Joe $ ____

Jill $ ____

Show My Work (Optional)

15. –/1 pointsBerrFinMath1 2.3.008.

In the following ordinary annuity, the interest is compounded with each payment, and the payment is made at the end of the compounding period.

How much must you invest each month in a mutual fund yielding 13.8% compounded monthly to become a millionaire in 10 years? (Round your answer to the nearest cent.)

$ [ ]

Show My Work (Optional)

16. –/1 pointsBerrFinMath1 2.4.001.

Calculate the present value of the annuity. (Round your answer to the nearest cent.)

$12,000 annually at 6% for 10 years.

$ [ ]

Show My Work (Optional)

17. –/1 pointsBerrFinMath1 2.4.003.

Determine the payment to amortize the debt. (Round your answer to the nearest cent.)

Monthly payments on $120,000 at 3% for 25 years.

$ [ ]

Show My Work (Optional)

18. –/1 pointsBerrFinMath1 2.4.004.

Determine the payment to amortize the debt. (Round your answer to the nearest cent.)

Quarterly payments on $18,500 at 3.6% for 6 years.

$ [ ]

Show My Work (Optional)

19. –/1 pointsBerrFinMath1 2.4.005.

Find the unpaid balance on the debt. (Round your answer to the nearest cent.)

After 5 years of monthly payments on $140,000 at 3% for 25 years.

$ [ ]

Show My Work (Optional)

20. –/1 pointsBerrFinMath1 2.4.007.

The super prize in a contest is $10 million. This prize will be paid out in equal yearly payments over the next 25 years. If the prize money is guaranteed by AAA bonds yielding 6% and is placed into an escrow account when the contest is announced 1 year before the first payment, how much do the contest sponsors have to deposit in the escrow account? (Round your answer to the nearest cent.)

$ [ ]

Show My Work (Optional)

Unit 1: Mathematics of Finance – Discussion Board Problems

2.1 Simple Interest

A. Find the simple interest on a loan of $8000 at 6% for 18 months.

B. Find the simple interest on a loan of $12000 at 3% for 30 months.

C. Find the total amount due for a simple interest loan of $4500 at 4% for 5 years.

D. Find the total amount due for a simple interest loan of $8000 at 4% for 5 years.

E. Find the interest rate on a simple interest loan charging $450 interest on a principal loan of $2000 over 5 years.

F. Find the interest rate on a simple interest loan charging $1080 interest on a principal loan of $3000 over 6 years.

G. Find the principal of a loan at 4% if the simple interest after 6 years 6 months is $1352.

H. Find the principal of a loan at 8% if the simple interest after 4 years 6 months is $3600.

I. Find the term of a loan of $3000 at 5% if the simple interest is $1050.

J. Find the term of a loan of $7200 at 4.5% if the simple interest is $2592.

2.2 Compound Interest

K. Determine the amount due on a loan of $15,000 at 4.5% for 10 years compounded quarterly.

L. Determine the amount due on a loan of $25,000 at 4% for 5 years compounded quarterly.

M. Calculate the present value of a loan with $30,000 due after 10 years at 6% if the interest was compounded monthly. (the present value is the same as the principal amount of the loan)

N. Use the rule of 72 to estimate the doubling time (in years) for an interest rate of 3%, compounded annually. Then calculate it exactly. explain + answer

O. Use the rule of 72 to estimate the doubling time (in years) for an interest rate of 4%, compounded annually. Then calculate it exactly.

P. Find the effective rate for the compound interest rate: 16% compounded monthly.

2.3 Annuities

Q. Calculate the accumulated amount of an annuity with deposits of $500 monthly at 6% for 20 years.

R. Calculate the accumulated amount of an annuity with deposits of $600 monthly at 4% for 25 years.

S. Find the monthly deposit required for the sinking fund earing 6% to accumulate to $10,000 after 10 years.

T. Find the amount of time needed for a sinking fund with monthly deposits of $2,000 at 6% to accumulate to $1,000,000.

U. Find the amount of time needed for a sinking fund with monthly deposits of $2,500 at 6% to accumulate to $1,000,000.