

Test Review

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**Math\_Questions\_0052**

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- 1) The simple interest charged on a five-month loan of \$5900 is \$147.50. What is the simple interest rate?
- 2) Melissa has purchased a used car to take back with her to college. She borrows \$7200 from her parents and plans to pay back the loan in 7 months when she graduates. How much money should she deposit today to have exactly enough to pay off the loan to her parents in 7 months?
- 3) You are offered three investments. The first promises to earn 18% compounded annually, the second will earn 17.5% compounded quarterly, and the third will earn 17% compounded weekly. What is the best investment? Show work to justify your answer.
- 4) Find the required payment for the following sinking fund: Quarterly deposits earning 6.4% to accumulate \$50,000 after 20 years.
- 5) At what rate of interest, compounded annually, will a sum of money double itself in 6 years?
- 6) How much would need to be invested at 3.25% annual simple interest to amount to \$6,510 in 5 years?
- 7) If \$10,000 is deposited in a money market account when interest is compounded every month at an annual rate of 5%, the total amount accumulated at the end of 5 years will be: (Round to the nearest cent.)
- 8) Jason, who is 13 years old, wants to make deposits into an account to accumulate money for a new car when he is 18 years old. At that time, he will need \$20,000. If his account pays interest at 5% per year compounded quarterly and deposits are made at the end of each quarter, how large must each deposit be in order to reach his goal? (Round to the nearest cent.)
- 9) A minister purchases a car for \$21,500 and finances the entire amount at an annual interest rate of 5.9% for 4 years. What is the monthly payment?
- 10) How much should we deposit now into an account earning 6% interest per year, compounded monthly so that starting one month from now the bank will send us monthly payments of \$200 for 5 years? At the end of the five years, the account balance should be depleted to zero. (Round to the nearest cent.)
- 11) If you deposit \$4,000 in a money market account when interest is compounded quarterly, what annual rate of interest would be required to end up with \$8,000 in 5 years? (Round to the nearest 10<sup>th</sup> of a percent.)

- 12) Chris plans to sell his current home and use the proceeds to cover the cost of a new home. He decides to take out a short-term loan to help with expenses until his current house sells. If the bank charges 9% simple annual interest, how much will David owe at the maturity of a 90-day loan of \$100,000? Assume the bank counts a year as 360 days. (Round to the nearest dollar.)
- 13) What is the effective annual interest rate of an investment that pays 6.1% annual interest compounded quarterly?
- 14) What would it cost to buy a U.S. Treasury bill that pays \$10,000 after 6 months where the simple annual interest rate is 3.75%? (Round to the nearest cent.)
- 15) A retirement account has \$10,000 in it and earns 10% interest per year compounded monthly. At the end of every month for the next 10 years you will deposit \$200 into this account. How much will be in the account at the end of 10 years? (Round to the nearest dollar.)
- 16) Find the term of a loan of \$1672 at 5.3% if simple interest is \$73.85.
- 17) Suppose that on January 1, 1864, one of your ancestors invested \$36 compounded annually at 6.5%. If this money were left to you, how much money would you have had on January 1, 2002?
- 18) If Brazil has an annual inflation rate of 1,132% and an item will cost 125,000 *cruzados* in 5 years, what does that same item cost now?
- 19) An investment of \$7125 was made into an account that compounded interest monthly. At the end of 14 years, the balance in the account doubled. Find the interest rate to the nearest tenth of a percent.
- 20) Find the amount of time needed for the following sinking fund to reach the given accumulated amount \$235 monthly at 5.9% to accumulate \$25,000
- 21) The following describes the conditions of an ordinary annuity, with interest compounded with each payment and payments made at the end of the compounding period. Find the accumulated amount of the annuity. \$1000 monthly payments at 6.9% for 20 years
- 22) \$100 invested at simple 5% annual interest for 8 months will earn \_\_\_\_\_ interest. (Round to nearest cent.)
- 23) The *Zoron Corporation* is issuing 10-year zero-coupon bonds. How much should you pay for these bonds with a maturity value of \$100,000 if you wish to get a return of 5.8% compounded semiannually. (Round to the nearest dollar.)
- 24) Find the total amount due for a simple interest loan of \$7654 at 13.9% for a period of 2 years 9 months
- 25) If you invest \$5,000 at 4% compounded semiannually, how long will it take for your investment to grow to \$8,000? (Round to the nearest year.)