Chapter 5 Retest Review

1. Tamika Jamison’s bank calculates interest on a daily basis. Complete the following interest calculations:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Principal | ´ | Rate | ´ | Time | = | Interest |
| $3,700 | ´ | 0.06 | ´ |  | = |  |

1. Natasha Evans deposited $2,100 in a savings account that earns 5 percent interest compounded quarterly. The amount in her account at the end of the second quarter was $2,152.83. How much compound interest had she earned?
2. $4,000 is deposited at 8 percent interest compounded semiannually. What is the amount in the account at the end of 1 year?
3. Malik Montez’s savings account has a principal of $1,540. It earns 6 percent interest compounded quarterly. What is the amount at the end of the second quarter?
4. Marta Perez’s savings account has a principal of $2,700. It earns 6 percent interest compounded semiannually. How much is the compound interest after 1 year?
5. Ginger Yiu has a principal of $9,000 in her savings account. It earns 6 percent interest compounded quarterly. What is the amount in the account at the end of the third quarter?

**Figure 5.1. Use this table with the question(s) below, as needed.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Compound Interest—Amount of $1.00** | | | |
| **Total**  **Interest**  **Periods** | **Interest Rate per Period** | | |
| **1.250%** | **1.375%** | **1.500%** |
| 1 | 1.01250 | 1.01375 | 1.01500 |
| 2 | 1.02515 | 1.02768 | 1.03022 |
| 3 | 1.03797 | 1.04182 | 1.04567 |
| 4 | 1.05094 | 1.05614 | 1.06136 |
| 5 | 1.06408 | 1.07066 | 1.07728 |
| 6 | 1.07738 | 1.08538 | 1.09344 |
| 7 | 1.09085 | 1.10031 | 1.10984 |
| 8 | 1.10448 | 1.11544 | 1.12649 |

1. Use Figure 5.1. Home City Bank pays 5 percent interest compounded quarterly on regular savings accounts. Miguel Cardosa deposited $2,000 for 1 year. He made no other deposits or withdrawals. How much interest did he earn during the 1 year?
2. Use Figure 5.1. When their child was born, Elaine and Mike Porter deposited $4,000 in a savings account at Tennessee Trust. The money earns interest at 6 percent compounded quarterly. How much will the account be worth when their child celebrates her second birthday?

**Figure 5.2. Use this table with the question(s) below, as needed.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Amount of $1.00 at 5.5%**  **Compounded Daily, 365-Day Year** | | | |
| **Day** | **Amount** | **Day** | **Amount** |
| 21 | 1.00316 | 31 | 1.00468 |
| 22 | 1.00331 | 32 | 1.00483 |
| 23 | 1.00347 | 33 | 1.00498 |
| 24 | 1.00362 | 34 | 1.00513 |
| 25 | 1.00377 | 35 | 1.00528 |

1. Use Figure 5.2. Maurice Luken deposited $4,025 in a savings account that paid 5.5 percent interest compounded daily. How much interest did he earn in 31 days?

**Figure 5.3. Use this table with the question(s) below, as needed.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Future Value of an Ordinary Annuity for $1.00 per Period** | | | | |
| **Quarterly**  **Period “*n”*** | **Rate Per Period** | | | |
| **0.50%** | **1.00%** | **1.50%** | **2.00%** |
| **1** | $1.00000 | $1.00000 | $1.00000 | $1.00000 |
| **2** | $2.00500 | $2.01000 | $2.01500 | $2.02000 |
| **3** | $3.01502 | $3.03010 | $3.04522 | $3.06040 |
| **4** | $4.03010 | $4.06040 | $4.09090 | $4.12161 |
| **5** | $5.05025 | $5.10101 | $5.15227 | $5.20404 |
| **6** | $6.07550 | $6.15202 | $6.22955 | $6.30812 |
| **7** | $7.10588 | $7.21354 | $7.32299 | $7.43428 |
| **8** | $8.14141 | $8.28567 | $8.43284 | $8.58297 |
| **9** | $9.18212 | $9.36853 | $9.55933 | $9.75463 |
| **10** | $10.22803 | $10.46221 | $10.70272 | $10.94972 |
| **11** | $11.27917 | $11.56683 | $11.86326 | $12.16872 |
| **12** | $12.33556 | $12.68250 | $13.04121 | $13.41209 |

1. Use Figure 5.3. Clayton Camp deposits $800 in an ordinary annuity at the end of each quarter. The account earns 6 percent interest compounded quarterly. What is the future value of the account in 2 years?
2. Use Figure 5.3. Aiko Murakami deposits $600 in an ordinary annuity at the end of each quarter in an account earning 4 percent interest compounded quarterly. What is the future value of the account in 1 year?
3. Use Figure 5.3. Carlene Campbell deposits $1,500 in an ordinary annuity at the end of each quarter in an account earning 8 percent interest compounded quarterly. What is the future value of the account in 3 years?

**Key**

1. $14.60
2. $52.83
3. $4,326.40
4. $1,586.55
5. $164.43
6. $9,411.11
7. $101.88 (using the Table) $101.89 (using the Formula)
8. $4,505.96 (using the Table) $4,505.97 (using the Formula)
9. $18.84 (using the Table and the Formula)
10. $6,746.27
11. $2,436.24
12. $20,118.14