

Certificates of Deposit

You can purchase another investment called a **certificate of deposit**, or **CD**, at your bank. Because money invested in a CD cannot be withdrawn for a set period of time without a penalty charge, CDs earn higher interest rates than regular savings accounts.

CDs can usually be purchased for \$500 or more. Common terms for CDs are 3 months, 6 months, 1 year, 3 years, and 5 years. In general, the longer the term, the higher the interest rate, but the longer you do not have ready access to your money.

The table shows how one bank advertises its CDs. Since interest is usually compounded daily, you can use the **annual effective yield** to find the actual interest earned in a year. The annual effective yield can also be used to compare CDs with the returns on other investments.

CERTIFICATES OF DEPOSIT

Term	Annual rate	Annual effective yield
3 months	0.60%	0.60%
6 months	1.00%	1.00%
1 year	1.24%	1.25%
3 years	1.83%	1.85%
5 years	2.37%	2.40%

Example 1: How much interest will you earn on a 1-year \$5,000 CD?

Step 1 Use the table.

The annual effective yield for a 1-year CD is 1.25%.

Step 2 Multiply to find the interest.

THINK: $1.25\% = 0.0125$

$$0.0125 \times \$5,000 = \$62.50$$

You will earn \$62.50 in interest on the CD.

Name _____ Date _____

The annual effective yield must be divided by 2 for 6-month terms and by 4 for 3-month terms.

Example 2: How much interest will you earn on a 3-month \$2,000 CD?

Step 1 Use the table on page 85.

The annual effective yield for a 3-month CD is 0.60%.

Step 2 Multiply to find the annual interest.

THINK: $0.60\% = 0.0060$

$$0.0060 \times \$2,000 = \$12$$

Step 3 Divide to find the 3-month interest.

THINK: 3 months is $\frac{1}{4}$ of a year.

$$\$12 \div 4 = \$3$$

You will earn \$3 in interest on the CD.

Think About It

1. Why do CDs earn more interest than regular savings accounts?

2. Why might some people be hesitant to purchase longer-term CDs?

Practice

Remember to estimate whenever you use your calculator.

Use the table on page 85. What is the annual effective yield for the CD?

1. 3-month CD _____

2. 3-year CD _____

3. 5-year CD _____

4. 6-month CD _____

Name _____ Date _____

Use the table on page 85. Find the interest earned over the term.

Amount invested	Term of CD	Interest earned
\$2,500	1 year	5. _____
\$1,000	1 year	6. _____
\$7,500	6 months	7. _____
\$5,000	3 months	8. _____
\$1,500	1 year	9. _____
\$10,000	6 months	10. _____

Use the table on page 85. Solve.

11. Michael invested \$15,000 in a 6-month CD. After 6 months, he took his interest and reinvested the \$15,000 in another 6-month CD.
 - a. How much interest did Michael earn on the first CD? _____
 - b. How much interest did he earn on the second CD? _____
 - c. How much interest did he earn in all? _____
12. Nancy invested \$15,000 in a 1-year CD.
 - a. How much interest did Nancy earn? _____
 - b. Did the 1-year CD earn more or less than the two 6-month CDs in Exercise 11? How much more or less? _____
13. Sonya invested \$5,000 in a 3-month CD. After 3 months, she took her interest and reinvested the \$5,000 in another 3-month CD.
 - a. How much interest did Sonya earn on the first CD? _____
 - b. How much interest did she earn on the second CD? _____
 - c. How much interest did she earn in all? _____
14. Manual invested \$5,000 in a 6-month CD.
 - a. How much interest did Manual earn? _____
 - b. Did the 6-month CD earn more or less than the two 3-month CDs in Exercise 13? How much more or less? _____

Name _____ Date _____

Extension Investment Yield

The annual yield of any investment is calculated by dividing the interest earned in 1 year by the amount invested.

Example: In 1 year, you earned \$124.25 in interest on an investment of \$2,000. To the nearest tenth of a percent, what was the annual yield?

Step 1 Divide.

$$\$124.25 \div \$2,000 = 0.062125$$

Step 2 Rename the decimal as a percent.

$$0.062125 \approx 6.2\%$$

The annual yield was 6.2%.



Find the annual yield of each investment to the nearest tenth of a percent.

Amount invested	Interest earned in 1 year	Annual yield
\$500	\$11.25	1. _____
\$1,500	\$20.85	2. _____
\$2,000	\$64.20	3. _____
\$2,500	\$71.00	4. _____
\$5,000	\$151.00	5. _____
\$10,000	\$238.00	6. _____

Solve. Round each percent to the nearest tenth.

7. In 1 year, you earned \$37.80 in interest on a \$3,000 CD and \$48.50 on a \$5,000 savings account.

- What was the annual yield for the CD? _____
- What was the annual yield for the savings account? _____
- Which investment had the greater yield? _____

Certificates of Deposits

Pages 82-84

Think About It

1. The U.S. federal government pays the interest out of the money collected in federal taxes.
2. because you are lending money to the federal government when you buy a U.S. Savings Bond

Practice

- | | |
|----------------|--------------|
| 1. \$50 | 2. \$37.50 |
| 3. \$100 | 4. \$500 |
| 5. \$1,500 | 6. \$12,500 |
| 7. \$275 | 8. \$289.80 |
| 9. \$2,974 | 10. \$569.20 |
| 11. \$54.08 | 12. \$43.47 |
| 13. \$839.40 | 14. \$89.40 |
| 15. \$113.84 | 16. \$13.84 |
| 17. \$1,210.40 | 18. \$210.40 |
| 19. \$144.90 | 20. \$19.90 |
| 21. \$24,624 | 22. \$4,624 |
| 23. \$230.94 | 24. \$5.94 |
| 25. \$40,572 | 26. \$5,572 |
| 27. \$170.76 | 28. \$20.76 |
| 29. \$424.96 | 30. \$24.96 |
| 31. \$579.60 | 32. \$79.60 |
| 33. \$223.05 | 34. \$35.55 |
| 35. \$3,357.60 | |
| 36. \$357.60 | |
| 37. \$11,384 | |
| 38. \$1,384 | |
| 39. \$15,130 | |
| 40. \$2,630 | |
| 41. a. \$250 | |
| b. \$265.60 | |
| c. \$297.40 | |
| d. \$31.80 | |
| 42. a. \$50 | |
| b. \$61.56 | |
| c. \$100 | |
| d. \$38.44 | |

Pages 86-88

Think About It

1. When a customer buys a CD, the bank knows how long it will have access to those funds and how long before it will have to redeem the CD. By contrast, a customer can withdraw funds from a savings account at any time. For these reasons, banks are willing to pay more interest on CDs.
2. Possible answer: because interest rates may go up while their money is tied up in a CD and they would be subject to a penalty if they withdraw their money early

Practice

- | | |
|------------------|------------|
| 1. 0.60% | 2. 1.85% |
| 3. 2.40% | 4. 1.00% |
| 5. \$31.25 | 6. \$12.50 |
| 7. \$37.50 | 8. \$7.50 |
| 9. \$18.75 | 10. \$50 |
| 11. a. \$75 | |
| b. \$75 | |
| c. \$150 | |
| 12. a. \$187.50 | |
| b. more; \$37.50 | |
| 13. a. \$7.50 | |
| b. \$7.50 | |
| c. \$15 | |
| 14. a. \$25 | |
| b. more; \$10 | |

Extension

- | | |
|------------|---------|
| 1. 2.3% | 2. 1.4% |
| 3. 3.2% | 4. 2.8% |
| 5. 3.0% | 6. 2.4% |
| 7. a. 1.3% | |
| b. 1.0% | |
| c. the CD | |

Pages 91-92

Think About It

1. The prices of stocks fluctuate in response to supply and demand. When more people want to buy than to sell, the price goes up. When more people want to sell than to buy, the price goes down.
2. A "bull" market is a strong market with stock prices moving up, while a "bear" market is a weak market with stock prices moving down.

Practice

- | | |
|-------------------------|------------|
| 1. \$18.00 | 2. \$30.75 |
| 3. 108,000 | 4. \$2.18 |
| 5. \$2.52 | 6. \$45.02 |
| 7. \$28.87 | |
| 8. decrease of \$0.13 | |
| 9. EGadW, Enhart, EssWt | |
| 10. \$1,014 | |
| 11. \$661.50 | |
| 12. \$3,986.25 | |
| 13. \$1,001 | |
| 14. \$4,062.50 | |
| 15. \$105,294 | |
| 16. (P) \$217.20 | |
| 17. (L) \$525.60 | |
| 18. (P) \$2,058 | |
| 19. (L) \$5,277.50 | |
| 20. \$0.56 | 21. \$5.60 |
| 22. 1.6% | 23. \$1.80 |
| 24. \$72 | 25. 4.8% |
| 26. \$0.72 | 27. \$54 |
| 28. 1.7% | 29. \$0.28 |
| 30. \$140 | 31. 1.8% |
| 32. a. \$634.75 | |
| b. \$154.75 | |
| c. \$4 | |

