

22-1

Computing Taxable Income and Corporate Income Tax

Your business must pay federal income taxes. The tax rate you pay depends on the size and type of your business. **Corporations**, businesses owned by stockholders, are subject to federal tax rates ranging from 15 percent to 39 percent of **taxable income**. Taxable income is the portion of your company’s gross income that remains after business expenses are deducted. Business expenses include wages, rent, utilities, property taxes, depreciation, and so on.

Example

Find the federal corporate income tax.

High-Tech Electronics had a gross income of \$975,000 last year. The company incurred the following business expenses. What federal corporate income taxes must High-Tech pay?

Expenses:	Amount	Expenses:	Amount
Business Insurance	\$ 5,750	Rent	\$ 15,970
Depreciation	9,380	Utilities	27,258
Health Insurance	32,387	Wages	300,626
Office Supplies	5,750	Total	397,071

1. Find the taxable income.

Taxable Income = Annual Gross Income – Deductions

$\$975,000 - \$397,071 = \$577,929$ taxable income

2. Use the Federal Corporate Income Tax table on page 182 to find the federal corporate income tax.

$\$113,900 + 34\% \text{ of } (\$577,929 - \$335,000) = \$196,495.86$ income tax

Practice

Use the Federal Corporate Income Tax table on page 182 to find the taxable income and the total tax.

	Annual Gross Income	Deductions	Taxable Income	Total Tax
1.	\$ 125,000	\$ 80,000	a.	b.
2.	200,000	137,000	a.	b.
3.	275,000	122,500	a.	b.
4.	75,000,000	62,927,500	a.	b.

5. **Standardized Test Practice** Neo Standards had a gross income of \$18,750,000 and the following business expenses last year. How much federal corporate income tax must Neo Standards pay?

Expenses:	Amount	Expenses:	Amount
Business Insurance	\$175,000	Rent	\$ 67,875
Depreciation	247,580	Utilities	42,326
Health Insurance	537,250	Wages	2,995,000
Office Supplies	31,351	Total	4,096,382

- A. \$14,653,618 B. \$3,400,000 C. \$1,628,766.30 D. \$5,028,766.30

22-2

Calculating Selling Expenses and Net Proceeds from an Issue of Stock and Bonds

Your business may raise money by issuing **stocks** or **bonds**. When you issue stocks or bonds, you must pay certain expenses. One of these expenses is an **underwriting commission**, a commission to the investment banker who helps you distribute the stocks or bonds. Other expenses include accounting costs, legal fees, and printing costs. The amount your business actually receives from the sale of the stocks or bonds after paying these expenses is the **net proceeds**.

Example

Find the net proceeds and the cost per share.

To expand its business, High-Tech electronics issues 250,000 shares of stock at a cost of \$20 per share. The underwriting commission is 5 percent of the value of the stock. Other expenses of issuing the stock amount to \$150,000. If all the shares are sold, what will High-Tech's proceeds be? What is the cost per share of the selling expenses?

1. Find the value of the stock
 $250,000 \times \$20 = \$5,000,000$
2. Find the underwriting expense.
 $5\% \times \$5,000,000 = \$250,000$

3. Find the net proceeds.

Net Proceeds = Value of Issue – Total Selling Expenses
 $\$5,000,000 - \$250,000 - \$150,000 = \$4,600,000$ net proceeds

4. Find the cost per share.

Cost per Share = Total Selling Expenses ÷ Total Number of Shares
 $\$400,000 \div 250,000 = \1.60 per share

Practice

Find the commission expense, the total selling expenses, the net proceeds, and the selling cost per share.

	Value of Issue	Percent	Commission Expenses	Other Expenses	Total Selling Expenses	Net Proceeds	Number of Shares	Selling Cost per Share
1.	\$1,000,000	6.5%	a.	\$ 50,000	b.	c.	200,000	d.
2.	750,000	6.0%	a.	30,500	b.	c.	50,000	d.
3.	10,000,000	7.5%	a.	250,000	b.	c.	500,000	d.
4.	5,375,000	7.0%	a.	127,595	b.	c.	325,000	d.

5. Consolidated Shippers issued 125,000 shares of stock at a cost of \$15 per share. The underwriting commission is 6 percent of the value of the stock. Other expenses amount to \$227,500. If all the shares are sold, what are the total selling expenses?
6. **Standardized Test Practice** To expand its business, Neo Standards issues 150,000 shares of stock at a cost of \$25 per share. The underwriting commission is 6 percent of the sale. Other expenses amounted to 4 percent of the sale cost. If all of the shares are sold, what were Neo Standards' net proceeds?
A. \$3,750,000 **B.** \$262,500 **C.** \$3,375,000 **D.** \$3,525,000

22-3

Determining the Maturity Value of a Commercial Loan

Your business may borrow money to buy raw materials, products, or equipment by taking out a **commercial loan**, or business loan. The **maturity value** of your loan is the total amount you must repay. The maturity value includes both the principal borrowed and the interest on the loan. Commercial loans usually charge *ordinary interest at exact time*, that is, your loan term length is calculated by dividing the exact number of days of the loan by 360 days. Commercial loans usually have interest rates that are one to two percentage points higher than the **prime rate**. The prime rate is the lowest rate of interest available to commercial customers at a given time.

Example

Find the interest owed and the maturity value.

To expand its business, High-Tech Electronics borrowed \$150,000 from National Bank. The bank lent the money at 1 percent above the prime rate of 5.5 percent. The loan is ordinary interest for 120 days. What is the maturity value of the loan?

- Find the interest owed.

$$\text{Interest} = \text{Principal} \times \text{Rate} \times \text{Time}$$

$$\$150,000 \times (5.5\% + 1\%) \times 120/360$$

$$\$150,000 \times 6.5\% \times 1/3 = \$3,250 \text{ interest owed}$$

- Find the maturity value.

$$\text{Maturity Value} = \text{Principal} + \text{Interest Owed}$$

$$\$150,000 + \$3,250 = \$153,250 \text{ maturity value}$$

Practice

Find the interest owed and the maturity value using ordinary interest at exact time.

	Principal	Rate	Time (in days)	Interest Owed	Maturity Value
1.	\$ 75,000	6.000%	150	a.	b.
2.	125,000	6.500%	120	a.	b.
3.	200,750	5.250%	240	a.	b.
4.	275,389	3.875%	180	a.	b.

- First United lent Educational Gift Company \$185,000 to expand its business. The term of the loan is 240 days. The interest rate is 1.5 percent over prime. If the prime rate is 4.75 percent, what is the maturity value of the loan?

- Standardized Test Practice** To expand its business, Neo Standards took out a \$200,000 real estate loan with National Bank for 270 days at 2.5 percent above the prime rate of 5.25 percent. It also took out a \$50,000 loan with its local bank for 120 days. The local bank charges 1.5 percent above the prime rate of 5.25 percent. What is the total combined interest owed for both loans?

- A. \$11,625 B. \$12,750 C. \$1,125 D. \$262,750



Determining the Cost and Yield of a Treasury Bill

One way your business can invest its surplus cash is in U.S. **Treasury bills**, which you can buy through a bank. By buying a Treasury bill, you're actually lending money to the government. In return, you receive interest at the rate in effect at the time you purchase the bill. The interest is ordinary interest at exact time. Treasury bills are issued on a **discount** basis, which means the interest is computed and then subtracted from the **face value** of the bill to determine the cost of the bill. The face value is the amount of money you'll receive on the maturity date of the bill. Maturity dates for Treasury bills range from 30 days to a year. The **yield** is the rate of return earned by an investor who holds a bond for a certain period of time.

Example

Find the interest and the yield of a Treasury bill.

High-Tech Electronics invested its surplus cash in a \$125,000 U.S. Treasury bill for 180 days. The interest rate is 3.25 percent and the bank charges a \$30 service fee to obtain the Treasury bill. What is the cost of the Treasury bill? What is the yield?

1. Find the interest.

$$\text{Interest} = \text{Principal} \times \text{Rate} \times \text{Time}$$

$$\$125,000 \times 3.25\% \times 180/360 = \$2,031.25 \text{ interest}$$

2. Find the cost of the Treasury bill.

$$\text{Cost of a Treasury Bill} = (\text{Face Value of Bill} - \text{Interest}) + \text{Service Fee}$$

$$(\$125,000 - \$2,031.25) + \$30 = \$122,998.75 \text{ cost}$$

3. Find the yield.

$$\text{Yield} = \text{Interest} \div (\text{Cost} \times \text{Time})$$

$$\$2,031.25 \div (\$122,998.75 \times 180/360) = 3.303\% \text{ yield}$$

Practice

Find the interest and the cost of the Treasury bill using ordinary interest at exact time.

	Face Value of Treasury Bill	Interest Rate	Time in Days	Interest	Bank Service Fee	Cost of Treasury Bill	Yield
1.	\$100,000	3.250%	60	a.	\$30.00	b.	c.
2.	150,000	2.715%	100	a.	35.00	b.	c.
3.	200,000	2.850%	125	a.	0.00	b.	c.
4.	275,000	4.255%	200	a.	27.50	b.	c.

5. **Standardized Test Practice** Neo Standards buys a \$200,000 Treasury bill at 4.250 percent for 270 days. It also buys a \$50,000 Treasury bill at 3.755 percent for 120 days. If the bank charges a \$25 fee per transaction, what is the total combined cost of the two Treasury bills?

- A. \$242,999.17 B. \$243,049.17 C. \$244,234.72 D. \$244,236.11

22-5

Determining the Cost and Yield for Commercial Paper

Another way that your business can invest its surplus cash is in **commercial paper** (CP), which is an unsecured promissory note issued by various companies. When your business invests in CP, you're actually lending money to another company. Your business usually obtains CP through a bank, which may charge a service fee. Because CP is a discount investment, it's sold at a price less than its maturity value, that is, the interest is computed and then subtracted from the face value to determine the cost of the CP. The face value of the CP is the amount of money you'll receive on the maturity date. You can calculate the yield on CP the same way you did for Treasury Bills.

Example

Find the cost and yield of CP.

High-Tech Electronics invests its surplus cash of \$125,000 in CP at 3.10 percent interest for 90 days. The bank charges a \$30 service fee to obtain the CP. What is the cost of the CP? What is the yield?

1. Find the interest.

Interest = Principal × Rate × Time

$\$125,000 \times 3.10\% \times 90/360 = \968.75 interest

2. Find the cost of the CP.

Cost of CP = (Face Value of CP – Interest) + Service Fee

$(\$125,000 - \$968.75) + \$30 = \$124,061.25$ cost

3. Find the yield.

Yield = Interest ÷ (Cost × Time)

$\$968.75 \div (\$124,061.25 \times 90/360) = 3.123\%$ yield

Practice

Find the interest and the cost of CP using ordinary interest at exact time.

	Face Value of CP	Interest Rate	Time in Days	Interest	Bank Service Fee	Cost of CP	Yield
1.	\$275,000	2.96%	60	a.	\$30.00	b.	c.
2.	425,000	3.50%	90	a.	35.00	b.	c.
3.	100,000	3.14%	100	a.	0.00	b.	c.
4.	75,000	4.25%	125	a.	27.50	b.	c.

5. Consolidated Shippers purchased \$250,000 of CP at 4.15 percent interest for 200 days. The bank charged a \$25 service fee. What was the cost and yield of the CP?
6. Educational Gift Company purchased \$185,000 of CP at 4.95 percent ordinary interest for 100 days. The bank charged a \$30 service fee. What is the yield on the Treasury bill?
 A. 5.018% B. 4.649% C. 4.957% D. 4.95%



22-6

Computing the Total Cost of Expanding a Business

There are many ways to expand your business. You might buy a new building or buy another business to become part of your own. Your business may **merge**, or combine, with another business to form a new business. **Growth expenses** for your business may include construction fees, consultation fees, legal fees, and so on.

Example

Find the total cost of expansion.

High-Tech Electronics wants to expand into video games. To conduct a survey of the market potential, it hires a marketing consultant at \$45 per hour for 10 hours, plus \$10 for each of 125 survey participants. High-Tech also buys warehouse space measuring 16 feet by 20 feet at a cost of \$12 per square foot. If other expenses for the expansion total \$7,500, what is High-Tech's total expansion cost?

1. Find the marketing consultant fees. $(\$45 \times 10) + (\$10 \times 125) = \$1,700$
2. Find the warehouse cost. $\$12 \times 320 \text{ square feet} = \$3,840$

3. Find the total cost of expansion.

Total Cost of Expansion = Sum of Individual Costs

$$\$1,700 + \$3,840 + \$7,500 = \mathbf{\$13,040 \text{ total cost of expansion}}$$

Practice

For Problems 1–3, use the growth expenses below to find the individual costs and the total cost for expansion.

Building Costs:	
Land	\$100,000
Survey	\$5,600
Construction	25 ft × 40 ft at \$20/sq ft
Architect's Fee:	7.5% of construction cost
Legal Fees:	\$10,000

1. What are the total buildings costs?
2. What is the architect's fee?
3. What is the total cost of expansion?
4. To expand its warehouse, Consolidated Shippers hires a contractor at \$50 per hour for 65 hours of work. The new warehouse measures 40 feet by 50 feet and costs \$7.50 per square foot to build. What is the total expansion cost?
5. **Standardized Test Practice** Neo Standards wants to build a new store. It hires an attorney at \$80 per hour for 30 hours of consultation. The land costs \$35,000. The new building will be 50 feet by 50 feet and will cost \$25 per square foot to build. The architect charges 7 percent of the combined cost of the building and the land. What is Neo Standards' total expansion cost?
A. \$99,900 B. \$102,350 C. \$104,275 D. \$106,725

22 Chapter Review

Financial Management Cryptogram

Unscramble the following words that you learned in this chapter by placing one letter on each line. Then use the numbered lines to complete the answer to the riddle at the end of the sheet.

1. CRPOROETA

□ □ □ □ □ □ □ □ □ □

2. AATELBX

□ □ □ □ □ □ □

1 7

3. NIEUSTODCD

□ □ □ □ □ □ □ □ □ □

8

4. SROSG

□ □ □ □ □

4

5. SEOEDCPR

□ □ □ □ □ □ □ □

6. SAEHSR

□ □ □ □ □ □

2

7. ETTENIRS

□ □ □ □ □ □ □ □

6

8. YTIUMRTA

□ □ □ □ □ □ □ □

5

9. AENOIPXNS

□ □ □ □ □ □ □ □ □

3

RIDDLE:

What do you call a great financial road sign?

10. ANSWER:

□ □ □ □ □ □ □ □ □ □

1 2 3 4 2 5 3 6 7 8