EXERCISES

Ex. 10–1

Current liabilities:

Federal income taxes payable ...................................................... $220,000*
Advances on magazine subscriptions ........................................... 562,500**
Total current liabilities ............................................................. $782,500

*$550,000 × 40%
**10,000 × $75 × 9/12 = $562,500

The nine months of unfilled subscriptions are a current liability because New Wave received payment prior to providing the magazines.

Ex. 10–2

a. 1. Merchandise Inventory ....................................................... 566,200
   Interest Expense .............................................................. 3,800*
   Notes Payable ................................................................. 570,000
2. Notes Payable .................................................................. 570,000
   Cash ............................................................................. 570,000

b. 1. Notes Receivable ............................................................... 570,000
   Sales ............................................................................ 566,200
   Interest Revenue .............................................................. 3,800*
2. Cash ............................................................................. 570,000
   Notes Receivable .............................................................. 570,000

*$570,000 × 8% × 30/360
Ex. 10–3

a. $180,000 \times 10\% \times 45/360 = $2,250 for each alternative.

b. (1) $180,000 simple-interest note: $180,000 proceeds
   (2) $180,000 discounted note: $180,000 – $2,250 interest = $177,750 proceeds

c. Alternative (1) is more favorable to the borrower. This can be verified by comparing the effective interest rates for each loan as follows:

   Situation (1): 10% effective interest rate
   \[
   \frac{2,250 \times 360/45}{180,000} = 10\%
   \]

   Situation (2): 10.13% effective interest rate
   \[
   \frac{2,250 \times 360/45}{177,750} = 10.13\%
   \]

   The effective interest rate is higher for the second loan because the creditor lent only $177,750 in return for $2,250 interest over 45 days. In the simple-interest loan, the creditor must lend $180,000 for 45 days to earn the same $2,250 interest.

Ex. 10–4

a. Accounts Payable ......................................................... 80,000
   Notes Payable .............................................................. 80,000

b. Notes Payable .............................................................. 80,000
   Interest Expense ......................................................... 600*
   Cash ........................................................................ 80,600

   *$80,000 \times 6\% \times 45/360

Ex. 10–5

a. Accounts Payable ......................................................... 71,580
   Interest Expense ......................................................... 420*
   Notes Payable .............................................................. 72,000

   *$72,000 \times 7\% \times 30/360

b. Notes Payable .............................................................. 72,000
   Cash ........................................................................ 72,000
Ex. 10–6
a. June 30
   Building .......................................................... 350,000
   Land .......................................................... 250,000
   Note Payable .................................................. 300,000
   Cash .......................................................... 300,000

b. Dec. 31
   Note Payable .................................................. 15,000
   Interest Expense ($300,000 × 8% × 1/2) ...... 12,000
   Cash .......................................................... 27,000

c. June 30
   Note Payable .................................................. 15,000
   Interest Expense ($285,000 × 8% × 1/2) ...... 11,400
   Cash .......................................................... 26,400

Ex. 10–7
a. $67,500,000, the amount disclosed as the current portion of long-term debt.
b. The current liabilities increased by $60,100,000 ($67,500,000 – $7,400,000).
c. $755,600,000 ($823,100,000 – $67,500,000)

Ex. 10–8
a. Regular pay (40 hrs. × $60) ........................................... $2,400.00
   Overtime pay (15 hrs. × $90) ............................. 1,350.00
   Gross pay .................................................. $3,750.00

b. Gross pay .................................................. $3,750.00
   Less: Social security tax (6% × $3,750) ............... $225.00
   Medicare tax (1.5% × $3,750) ......................... 56.25
   Federal withholding ....................................... 743.00
   Net pay .................................................. $2,725.75
### Ex. 10–9

<table>
<thead>
<tr>
<th></th>
<th>Consultant</th>
<th>Computer Programmer</th>
<th>Administrator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular earnings</td>
<td>$2,800.00</td>
<td>$1,200.00</td>
<td>$1,680.00</td>
</tr>
<tr>
<td>Overtime earnings</td>
<td></td>
<td>900.00</td>
<td>840.00</td>
</tr>
<tr>
<td>Gross pay</td>
<td>$2,800.00</td>
<td>$2,100.00</td>
<td>$2,520.00</td>
</tr>
<tr>
<td>Less: Social security tax</td>
<td>$ 168.00$^1\text{ }</td>
<td>$126.00$^2\text{ }</td>
<td>$151.20$^3\text{ }</td>
</tr>
<tr>
<td>Medicare tax</td>
<td>42.00$^4\text{ }</td>
<td>31.50$^5\text{ }</td>
<td>37.80$^6\text{ }</td>
</tr>
<tr>
<td>Federal income tax withheld...</td>
<td>$593.28</td>
<td>$416.88</td>
<td>$554.08</td>
</tr>
<tr>
<td>Net pay</td>
<td>$1,996.72</td>
<td>$1,525.62</td>
<td>$1,776.92</td>
</tr>
</tbody>
</table>

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For the Consultant:

\[6.0\% \times \$2,800 = \$168.00\]

For the Computer Programmer:

\[6.0\% \times \$2,100 = \$126.00\]

For the Administrator:

\[6.0\% \times \$2,520 = \$151.20\]

---

**Withholding supporting calculations:**

<table>
<thead>
<tr>
<th></th>
<th>Consultant</th>
<th>Computer Programmer</th>
<th>Administrator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross weekly pay</td>
<td>$2,800.00</td>
<td>$2,100.00</td>
<td>$2,520.00</td>
</tr>
<tr>
<td>Number of withholding allowances</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Multiplied by: Value of one allowance</td>
<td>\times $70.00</td>
<td>\times $70.00</td>
<td>\times $70.00</td>
</tr>
<tr>
<td>Amount to be deducted</td>
<td>$210.00</td>
<td>$140.00</td>
<td>$70.00</td>
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<tr>
<td>Amount subject to withholding</td>
<td>$2,590.00</td>
<td>$1,960.00</td>
<td>$2,450.00</td>
</tr>
<tr>
<td>Initial withholding from wage bracket in Exhibit 3</td>
<td>$340.44</td>
<td>$340.44</td>
<td>$340.44</td>
</tr>
<tr>
<td>Plus: Bracket percentage over bracket excess</td>
<td>$252.84$^7\text{ }</td>
<td>$76.44$^8\text{ }</td>
<td>$213.64$^9\text{ }</td>
</tr>
<tr>
<td>Amount withheld</td>
<td>$593.28</td>
<td>$416.88</td>
<td>$554.08</td>
</tr>
</tbody>
</table>

---

\[728\% \times ($2,590 – $1,687)\]

\[828\% \times ($1,960 – $1,687)\]

\[928\% \times ($2,450 – $1,687)\]
Ex. 10–10

a. Summary: (1) $765,000; (3) $900,000; (8) $11,250; (12) $225,000

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net amount paid</td>
<td>$564,750</td>
</tr>
<tr>
<td>Total deductions</td>
<td>335,250</td>
</tr>
<tr>
<td>(3) Total earnings</td>
<td>$900,000</td>
</tr>
<tr>
<td>Overtime</td>
<td>135,000</td>
</tr>
<tr>
<td>(1) Regular</td>
<td>$765,000</td>
</tr>
<tr>
<td>Total deductions</td>
<td>335,250</td>
</tr>
<tr>
<td>Social security tax</td>
<td>$54,000</td>
</tr>
<tr>
<td>Medicare tax</td>
<td>13,500</td>
</tr>
<tr>
<td>Income tax withheld</td>
<td>225,000</td>
</tr>
<tr>
<td>Medical insurance</td>
<td>31,500</td>
</tr>
<tr>
<td>(8) Union dues</td>
<td>$11,250</td>
</tr>
<tr>
<td>Total earnings</td>
<td>$900,000</td>
</tr>
<tr>
<td>Factory wages</td>
<td>$475,000</td>
</tr>
<tr>
<td>Office salaries</td>
<td>200,000</td>
</tr>
<tr>
<td>(12) Sales salaries</td>
<td>$225,000</td>
</tr>
<tr>
<td>Factory Wages Expense</td>
<td>475,000</td>
</tr>
<tr>
<td>Sales Salaries Expense</td>
<td>225,000</td>
</tr>
<tr>
<td>Office Salaries Expense</td>
<td>200,000</td>
</tr>
<tr>
<td>Social Security Tax Payable</td>
<td>54,000</td>
</tr>
<tr>
<td>Medicare Tax Payable</td>
<td>13,500</td>
</tr>
<tr>
<td>Employees Income Tax Payable</td>
<td>225,000</td>
</tr>
<tr>
<td>Medical Insurance Payable</td>
<td>31,500</td>
</tr>
<tr>
<td>Union Dues Payable</td>
<td>11,250</td>
</tr>
<tr>
<td>Salaries Payable</td>
<td>564,750</td>
</tr>
<tr>
<td>Cash</td>
<td>564,750</td>
</tr>
</tbody>
</table>

b. Factory Wages Expense .......... 475,000
   Sales Salaries Expense .......... 225,000
   Office Salaries Expense ........ 200,000

   Social Security Tax Payable .... 54,000
   Medicare Tax Payable ............ 13,500
   Employees Income Tax Payable ... 225,000
   Medical Insurance Payable ...... 31,500
   Union Dues Payable .............. 11,250
   Salaries Payable ............... 564,750

b. Salaries Payable .................. 564,750
   Cash ................................ 564,750
Ex. 10–11

a. Social security tax (6% × $1,100,000) ........................................... $66,000
   Medicare tax (1.5% × $1,100,000) ........................................ 16,500
   State unemployment (4.2% × $50,000) ................................... 2,100
   Federal unemployment (0.8% × $50,000) ............................... 400
   Total Payroll Tax Expense .................................................. 85,000

b. Payroll Tax Expense .................................................... 85,000
   Social Security Tax Payable .................................. 66,000
   Medicare Tax Payable ............................................. 16,500
   State Unemployment Tax Payable ......................... 2,100
   Federal Unemployment Tax Payable ..................... 400

Ex. 10–12

a. Salaries Expense .......................................................... 1,300,000
   Social Security Tax Payable .................................. 61,100
   Medicare Tax Payable ............................................. 19,500
   Employees Federal Income Tax Payable .............. 260,000
   Salaries Payable ..................................................... 959,400

b. Payroll Tax Expense .................................................... 95,000
   Social Security Tax Payable .................................. 61,100
   Medicare Tax Payable ............................................. 19,500
   State Unemployment Tax Payable ......................... 12,480*
   Federal Unemployment Tax Payable ..................... 1,920**

*5.2% × $240,000
**0.8% × $240,000
Ex. 10–13

a. Wages Expense ............................................................ 110,000
  Social Security Tax Payable ........................................ 6,600
  Medicare Tax Payable ............................................. 1,650
  Employees Federal Income Tax Payable ...................... 22,000
  Wages Payable ......................................................... 79,750

b. Payroll Tax Expense .................................................... 9,180
  Social Security Tax Payable ........................................ 6,600
  Medicare Tax Payable ............................................. 1,650
  State Unemployment Tax Payable ............................... 810*
  Federal Unemployment Tax Payable ........................... 120**

  *5.4% × $15,000
  **0.8% × $15,000

Ex. 10–14

Big Dave’s Pizza does have an internal control procedure that should detect the payroll error. Before funds are transferred from the regular bank account to the payroll account, the owner authorizes a voucher for the total amount of the week’s payroll. The owner should catch the error, since the extra 160 hours will cause the weekly payroll to be substantially higher than usual.

Ex. 10–15

a. Appropriate. All changes to the payroll system, including wage rate increases, should be authorized by someone outside the Payroll Department.

b. Inappropriate. Each employee should record his or her own time out for lunch. Under the current procedures, one employee could clock in several employees who are still out to lunch. The company would be paying employees for more time than they actually worked.

c. Inappropriate. Payroll should be informed when any employee is terminated. A supervisor or other individual could continue to clock in and out for the terminated employee and collect the extra paycheck.

d. Inappropriate. Access to the check-signing machine should be restricted.

e. Appropriate. The use of a special payroll account assists in preventing fraud and makes it easier to reconcile the company’s bank accounts.
Ex. 10–16

a. Vacation Pay Expense .................................................. 5,100
   Vacation Pay Payable ............................................... 5,100
   Vacation pay accrued for January, $61,200 × 1/12.

b. Vacation pay is reported as a current liability on the balance sheet. If employees are allowed to accumulate their vacation pay, then the estimated vacation pay that will not be taken in the current year will be reported as a long-term liability. When employees take vacations, the liability for vacation pay is decreased.

Ex. 10–17

a. Mar. 31 Pension Expense ........................................... 141,500
   Unfunded Pension Liability ........................... 141,500
   To record quarterly pension cost.

Apr. 15 Unfunded Pension Liability .......................... 141,500
   Cash ............................................................ 141,500

b. In a defined contribution plan, the company invests contributions on behalf of the employee during the employee’s working years. Normally, the employee and employer contribute to the plan. The employee’s pension depends on the total contributions and the investment return on those contributions. In a defined benefit plan, the company pays the employee a fixed annual percentage based on a formula. The employer is obligated to pay for (fund) the employee’s future pension benefits.

Ex. 10–18

The $3,706 million unfunded pension liability is the approximate amount of the pension obligation that exceeds the value of the accumulated net assets of the pension plan. Apparently, Procter & Gamble has underfunded its plan relative to the actuarial obligation that has accrued over time. This can occur when the company contributes less to the plan than the annual pension cost.

The obligation grows yearly by the amount of the periodic pension cost. Thus, the periodic pension cost is an actuarial measure of the amount of pension earned by employees during the year. The annual pension cost is determined by making actuarial assumptions about employee life expectancies, employee turnover, expected compensation levels, and interest.
Ex. 10–19

a. Product Warranty Expense ........................................... 13,260
   Product Warranty Payable ........................................... 13,260
   To record warranty expense for June,
   3% × $442,000.

b. Product Warranty Payable ............................................ 196
   Supplies ................................................................. 110
   Wages Payable ......................................................... 86

Ex. 10–20

a. The warranty liability represents estimated outstanding automobile warranty claims. Of these claims, $3,792 million is estimated to be due during 2009, while the remainder ($4,699 million) is expected to be paid after 2009. The distinction between short- and long-term liabilities is important to creditors in order to accurately evaluate the near-term cash demands on the business, relative to the quick current assets and other longer-term demands.

b. Product Warranty Expense ...................... 3,876,000,000
   Product Warranty Payable ..................... 3,876,000,000
   $9,615 + X – $5,000 = $8,491
   X = $8,491 – $9,615 + $5,000
   X = $3,876 million

c. In order for a product warranty to be reported as a liability in the financial statements, it must qualify as a contingent liability. Contingent liabilities are only reported as liabilities on the balance sheet if it is probable that the liability will occur and the amount of the liability is reasonably estimable.
Ex. 10–21

a. Damage Awards and Fines ........................................... 808,000  
   EPA Fines Payable ................................................... 570,000  
   Litigation Claims Payable ........................................ 238,000  

Note to Instructors: The “damage awards and fines” would be disclosed on the income statement under “Other expenses.”

b. The company experienced a hazardous materials spill at one of its plants during the previous period. This spill has resulted in a number of lawsuits to which the company is a party. The Environmental Protection Agency (EPA) has fined the company $570,000, which the company is contesting in court. Although the company does not admit fault, legal counsel believes that the fine payment is probable. In addition, an employee has sued the company. A $238,000 out-of-court settlement has been reached with the employee. The EPA fine and out-of-court settlement have been recognized as an expense for the period. There is one other outstanding lawsuit related to this incident. Counsel does not believe that the lawsuit has merit. Other lawsuits and unknown liabilities may arise from this incident.

Ex. 10–22

a. Quick Ratio = \( \frac{\text{Quick Assets}}{\text{Current Liabilities}} \)

\[
\begin{align*}
\text{December 31, 2011:} & \quad \frac{\$524,000 + \$364,000}{\$740,000} = 1.2 \\
\text{December 31, 2012:} & \quad \frac{\$506,000 + \$354,000}{\$860,000} = 1.0
\end{align*}
\]

b. The quick ratio decreased between the two balance sheet dates. The major reason is a significant increase in inventory which likely drove the increase in accounts payable. Cash also declined, possibly to purchase the inventory. As a result, quick assets actually declined, while the current liabilities increased. The quick ratio for December 31, 2012, is not yet at an alarming level. However, the trend suggests that the firm’s current asset (working capital) management should be watched closely.
Ex. 10–23

a.  

<table>
<thead>
<tr>
<th></th>
<th>Apple Computer, Inc.</th>
<th>Dell Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Ratio</td>
<td>2.4</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Quick Ratio = \( \frac{\text{Quick Assets}}{\text{Current Liabilities}} \)

Apple Computer, Inc.:

\[ \text{Quick Ratio} = \frac{\$5,263 + \$18,201 + \$4,496}{\$11,506} = 2.4 \]

Dell Inc.:

\[ \text{Quick Ratio} = \frac{\$10,635 + \$373 + \$8,543}{\$18,960} = 1.0 \]

b. It is clear that Apple Computer's short-term liquidity is stronger than Dell's. Apple's quick ratio is 140% \([(2.4 - 1.0)/1.0]\] higher. Apple has a much stronger relative cash and short-term investment position than does Dell. Apple's cash and short-term investments are over 74% of total current assets (204% of current liabilities), compared to Dell's 54% of total current assets (73% of current liabilities). In addition, Dell's relative accounts payable position is larger than Apple's, indicating the possibility that Dell has longer supplier payment terms than does Apple. A quick ratio of 2.4 for Apple suggests ample flexibility to make strategic investments with its excess cash, while a quick ratio of 1.0 for Dell indicates an efficient but tight quick asset management policy.