

**2.96/2.961/6.930/10.806/13.52/16.653/22.002 Management in Engineering  
Fall 2012  
Problem Set 1**

1. Prepare the journal entry for each transaction.

- Lohan’s Active Pest Deterrents (“LAPD”) was founded on January 1, 2007. The company’s founder, Lindsey, provides two services: Pest Removal and Pest Prevention.
- The pest removal service eradicates ants, termites, rats, and other vermin (paparazzi) that might infest your house or business.
- Pest prevention service is a service that she provides quarterly to customers, where she treats the house with her patented Pest Prevention Elixirs that discourage ants and termites from entering the customer’s residence (or business).
- During the first fiscal year of operations, Lindsey engaged in the transactions listed as below

[Example] On January 1<sup>st</sup> (2007), LAPD used cash to purchase equipment costing \$200,000.

| Transaction | Accounts      | Debit   | Credit  |
|-------------|---------------|---------|---------|
| 01-01-2007  | Equipment (A) | 200,000 |         |
|             | Cash (A)      |         | 200,000 |

a. On February 1<sup>st</sup>, purchased poison supplies for \$20,000 on credit

| Transaction | Accounts             | Debit  | Credit |
|-------------|----------------------|--------|--------|
| 02-01-2007  | Supplies (A)         | 20,000 |        |
|             | Accounts Payable (L) |        | 20,000 |

b. On April 10, performed pest prevention services and received \$50,000 payment by cash from DINA’s Delightful Deli.

| Transaction | Accounts     | Debit  | Credit |
|-------------|--------------|--------|--------|
| 04-10-2007  | Cash (A)     | 50,000 |        |
|             | Revenue (SE) |        | 50,000 |

- c. On April 21<sup>st</sup>, billed clients for Pest Removal Services performed during the month of April totaling \$75,000.

| Transaction | Accounts                | Debit  | Credit |
|-------------|-------------------------|--------|--------|
| 04-21-2007  | Accounts Receivable (A) | 75,000 |        |
|             | Revenue (SE)            |        | 75,000 |

- d. On July 1<sup>st</sup>, performed pest prevention services worth of \$100,000 and received \$50,000 immediately with the remainder on credit.

| Transaction | Accounts                | Debit  | Credit  |
|-------------|-------------------------|--------|---------|
| 07-01-2007  | Cash (A)                | 50,000 |         |
|             | Accounts Receivable (A) | 50,000 |         |
|             | Revenue (SE)            |        | 100,000 |

2. Complete the missing values from (a) to (i) in the chart below. Show your calculations. Note that the first year of operations is 2001.

|   | 2003 | 2002  | 2001  |
|---|------|-------|-------|
| <b>Assets</b>                               |      |       |       |
| Cash  | 600  | 500   | 100   |
| Accounts Receivable                         | 500  | 400   | 400   |
| Inventory                                   | 400  | 350   | (a)   |
| Land  | 300  | 250   | 250   |
| Property, plant, and equipment              | 900  | (d)   | 600   |
| <b>Liabilities and Stockholder's Equity</b> |      |       |       |
| Accounts Payable                            | (g)  | 500   | 200   |
| Bonds Payable                               | 600  | 400   | 600   |
| Contributed Capital                         | 900  | 500   | 500   |
| Retained Earnings                           | 900  | (e)   | 100   |
| <b>Sales</b>                                | 2000 | (f)   | 1000  |
| <b>Expenses</b>                             | (h)  | (800) | (500) |
| <b>Net Income</b>                           | (i)  | 800   | (b)   |
| <b>Dividends</b>                            | 500  | 0     | (c)   |

(a) Accounts Receivable:

Total assets = Total liabilities + Total stockholders' equity

$$\$100 + 400 + (a) + 250 + 600 = 200 + 600 + 500 + 100$$

$$\text{Inventory} = 50$$

(b) Expenses:

Net income = Sales + Expenses

$$(b) = 1000 - 500$$

$$\text{Net income} = 500$$

(c) Dividends:

Ending retained earnings = Beginning retained earnings + Net income – Dividends

$$100 = 0 + 500 - (c)$$

$$\text{Dividends} = 400$$

(d) & (e)

Total assets = Total liabilities + Total stockholders' equity

$\$500 + 400 + 350 + 250 + (d) = 500 + 400 + 500 + (e)$  Retained earnings

Ending retained earnings = Beginning retained earnings + Net income – Dividends

(e) Retained earnings =  $100 + 800 - 0 = 900$

(d) Inventory = 800

(f) Sales:

Net income = Sales - Expenses

$800 = (f) - \text{Expenses}$

Expenses =  $-\$800 \rightarrow 800$

(f) = 1600

(g) Accounts payable:

Total assets = Total liabilities + Total stockholders' equity

$600 + 500 + 400 + 300 + 900 = (g) + 600 + 900 + 900$

Accounts receivable = 300

(h) Expenses:

Net income = Sales - Expenses

$500 \text{ (from i)} = 2000 - (h)$

Expenses = 1500

(i) Net income:

Ending retained earnings = Beginning retained earnings + Net income – Dividends

$900 = 900 + (i) - 500$

Net income = 500

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