Chapter 5 Alternate Demonstration Problem #1 (Periodic)

**The ABC Company had the following inventory record for the month of January:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  | # of  | Unit |  |
| Date | Description | Items | Price | Item |
| **1/1** | **Beginning inventory** | **5** | **$20** | **Z1, Z2, Z3, Z4, Z5** |
| **1/5** | **Sale** | **2** |  | **Z2, Z5** |
| **1/11** | **Purchase** | **9** |  **12** | **Z6, Z7, Z8, Z9, Z10, Z11, Z12, Z13, Z14** |
| **1/28** | **Sale** | **7** |  | **Z1, Z3, Z6, Z7, Z8, Z9, Z14** |
|  |  |  |  |  |

**Required:**

**Assuming a periodic system is in use, determine the following:**

1. **Cost of goods available for sale.**
2. **Cost of goods sold and the ending inventory using each of the following methods:**
	1. **FIFO**
	2. **LIFO**
	3. **Weighted Average**
	4. **Specific Identification**

Solution: Chapter 5 Alternate Demonstration Problem #1

1. **Cost of goods available for sale:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** |  | **Units** | **Unit Cost** | **Cost** |
| **1/1** | **Beginning inventory** | **5** | **$20** | **$100** |
| **1/11** | **Purchase** | **9** |  **12** |  **108** |
| **Total goods available for sale** | **14** |  | **$208** |

1. **a. FIFO Periodic (FIFO under periodic and perpetual yields identical results).**

|  |  |
| --- | --- |
| **Total goods available for sale** | **$208** |
| **Ending inventory** |
| **1/28** | **Purchase** | **5** | **$12** | **$60** |
| **Cost of goods sold** | **$148** |

1. **LIFO Periodic:**

|  |  |
| --- | --- |
| **Total goods available for sale** | **$208** |
| **Ending inventory** |
| **1/1** | **Beginning inventory** | **5** | **$20** | **$100** |
| **Cost of goods sold** | **$108** |

1. **Weighted Average Periodic:**

|  |  |  |
| --- | --- | --- |
| **Units** | **Unit cost** | **Total cost** |
| **5** | **$20** | **$100** |
| **9** |  **12** |  **108** |
| **14** |  **$208** |

**$208 / 14 = $14.86 rounded.**

|  |  |
| --- | --- |
| **Total cost of 14units available for sale** | **$208** |
| **Less ending inventory priced on a weighted average cost basis:** |
| **5 units at $14.86** |  **74** |
| **Cost of goods sold** | **$134** |

1. **Specific Identification:**

**Specific identification method: solution is identical to the solution shown in alternative demonstration problem for perpetual because specific identification is not a cost flow assumption; it is a method which specifically identifies each item in inventory and each item that is sold.**

|  |
| --- |
| **Specific Identification Periodic** |
| **Date** | **Purchases** | **Sales at Cost** | **Inventory Balance** |
| **1/1****Beginning** **Inventory** |  |  | **5 @ $ 20 = $100****Z1-Z5** |
| **1/5** |  | **2 @ $20 = $ 40****Z2, Z5** | **3 @ $20 = $ 60****Z1, Z3, Z4** |
| **1/11** | **9 @ $12=$108** **Z5-Z14**  |  | **3 @ $20 = $ 60****Z1, Z3, Z4****9 @ $12 = 108****Z5-Z14** **$168** |
| **1/18** |  | **Z1, Z3****2 @ $20 = $ 40****Z6, Z7, Z8, Z9, Z14****5 @ $12 = $ 60****$ 100** | **1 @ $20 = $ 20****Z4****4 @ $12 = 48****Z10-13** **$ 68****Ending Inventory** |
| **Total COGS** |  | **$40 + 100 = $140** |  |

Chapter 5 Alternate Demonstration Problem #2 (Perpetual)

**The ABC Company had the following inventory record for the month of January:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  | # of  | Unit |  |
| Date | Description | Items | Price | Item |
| **1/1** | **Beginning inventory** | **5** | **$20** | **Z1, Z2, Z3, Z4, Z5** |
| **1/5** | **Sale** | **2** |  | **Z2, Z5** |
| **1/11** | **Purchase** | **9** |  **12** | **Z6, Z7, Z8, Z9, Z10, Z11, Z12, Z13, Z14** |
| **1/28** | **Sale** | **7** |  | **Z1, Z3, Z6, Z7, Z8, Z9, Z14** |
|  |  |  |  |  |

**Required:**

**Assuming a perpetual system is in use, determine the cost of goods sold and the ending inventory using each of the following methods:**

1. **FIFO**
2. **LIFO**
3. **Weighted average**
4. **Specific identification**

Solution: Chapter 5 Alternate Demonstration Problem #2

**1.**

|  |  |  |  |
| --- | --- | --- | --- |
| **FIFO Perpetual** |  |  |  |
| **Date** | **Purchases** | **Sales at Cost** | **Inventory Balance** |
| **1/1****Beginning** **Inventory** |  |  | **5 @ $20 = $100** |
| **1/5** |  | **2 @ $20 = $ 40** | **3 @ $20 = $ 60** |
| **1/11** | **9 @ 12=$108** |  | **3 @ $20 = $ 60****9 @ $12 = 108** **$168** |
| **1/28** |  | **3 @ $20 = $ 60****4 @ $12 = 48** **$108** | **5 @ $12 = $ 60Ending Inventory** |
| **Total COGS** |  | **$ 40 + 108 = $148** |  |

**2.**

|  |  |  |  |
| --- | --- | --- | --- |
| **LIFO Perpetual** |  |  |  |
| **Date** | **Purchases** | **Sales at Cost** | **Inventory Balance** |
| **1/1****Beginning****Inventory** |  |  | **5 @ $ 20 = $100** |
| **1/5** |  | **2 @ $20 = $ 40** | **3 @ $20 = 60** |
| **1/11** | **9 @ $12=$108** |  | **3 @ $20 = $ 60****9 @ $12 = 108** **$168** |
| **1/18** |  | **7 @ $12 = $ 84** | **3 @ $20 = $ 60****2 @ $12 = 24** **$ 84****Ending Inventory** |
| **Total COGS** |  | **$40 + 84 = $124** |  |

Solution: Chapter 5 Alternate Demonstration Problem #2, continued

**3.**

|  |
| --- |
| **Weighted Average Perpetual** |
| **Date** | **Purchases** | **Sales at Cost** | **Inventory Balance** |
| **1/1** **Beginning** **Inventory** |  |  | **5 @ $20 = $100** |
| **1/5** |  | **2 @ $20 = $ 40** | **3 @ $20 = $ 60** |
| **1/11** | **9 @ 12=$108** |  | **3 @ $20 = $ 60****9 @ $12 = 108** **$168****$168/12 = $ 14****12 @ $14 = $168** |
| **1/18** |  | **7 @ $14 = $ 98** | **5 @ $14 = $ 70****Ending Inventory** |
| **Total COGS** |  | **$ 40 + 94 = $138** |  |

**4.**

|  |
| --- |
| **Specific Identification Perpetual** |
| **Date** | **Purchases** | **Sales at Cost** | **Inventory Balance** |
| **1/1****Beginning** **Inventory** |  |  | **5 @ $ 20 = $100****Z1-Z5** |
| **1/5** |  | **2 @ $20 = $ 40****Z2, Z5** | **3 @ $20 = $ 60****Z1, Z3, Z4** |
| **1/11** | **9 @ $12=$108** **Z5-Z14**  |  | **3 @ $20 = $ 60****Z1, Z3, Z4****9 @ $12 = 108****Z5-Z14** **$168** |
| **1/18** |  | **Z1, Z3****2 @ $20 = $ 40****Z6, Z7, Z8, Z9, Z14****5 @ $12 = $ 60****$ 100** | **1 @ $20 = $ 20****Z4****4 @ $12 = 48****Z10-13** **$ 68****Ending Inventory** |
| **Total COGS** |  | **$40 + 100 = $140** |  |