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 = $ 60 Ending 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** |  | |