Problem 9 – 16

1. Equivalent units for materials = 190,000 + 40,000 \* 0.75 = 220,000 (units)

Equivalent units for conversion = 190,000 + 40,000 \* 0.60 = 214,000 (units)

1. Cost per equivalent unit for materials = ($67,800 + $579,000) / 220,000 = $2.94 / unit

Cost per equivalent unit for conversion = ($30,200 + $248,000) / 214,000 = $1.3 / unit

1. Beginning work in process and started units are 30,000 and 200,000. Units transferred to next department and left, also, are 190,000 and 40,000. Thus, units transferred to next department being started and completed during this month are 190,000 – 30,000 = 160,000.
2. No, it is not because of manager’s achievement to hold cost less than $3 per unit. Rather, it is because of the problem in weighted average method. In this method, since you add previously manufactured portion when calculating cost per equivalent unit for certain period, the cost should be biased toward previous one in proportion to the volume of previous manufactured units in work in process.

Problem 9A – 11

1. Equivalent units for materials = 0 + 150,000 + 20,000 = 170,000 (units)

Equivalent units for conversion = 7,000 + 150,000 + 8,000 = 165,000(units)

1. Cost per equivalent unit for materials = $139,400 / 170,000 = $0.82 / unit

Cost per equivalent unit for conversion = $244,200 / 165,000 = $1.48 / unit

1. Cost of ending work in process inventory for materials = $0.82 \* 20,000 = $16,400

Cost of ending work in process inventory for conversion = $1.48 \* 8,000 = $11,840

Total cost of ending work in process = $16,400 + $11,840 = $28,240

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total Cost | Equivalent Units | |
| Materials | Conversion |
| Work in process, July 1 | $13,400 |  |  |
| Cost to complete | $10,360 | 0 | 7,000 |
| Started & Completed | $345,000 | 150,000 | 150,000 |
| Work in process, July 31- materials | $16,400 | 20,000 |  |
| Work in process, July 31- conversion | $11,840 |  | 8,000 |
| Total work in process, July 31 | $28,240 | 20,000 | 8,000 |
| Total cost accounted for | $397,000 |  |  |