EXERCISE 7-1 (10 minutes)


EXERCISE 7-2 (10 minutes)

a. 1 (in conventional costing); 3 (in ABC)  
b. 3  c. 1  d. 3  e. 2  f. 3  
g. 3  h. 1  i. 3  j. 2

EXERCISE 7-5 (15 minutes)

1. Setup overhead rate per hour:
   Total setup overhead cost ....................... $168,000
   Total number of setup hours .....................  \( \div 1,600 \)
   \[ \frac{1,600}{1,600} \]

   Total number of setup hours
   = 4 runs x 5 hours per setup x 80 products = 1,600 hours

2. Number of setup hours demanded by JAX-1
   = 3 runs per year x 6 hours of setup time = 18 hours
   Setup cost per unit of JAX-1:
   Setup overhead charged ($105 x 18 hours) .... $1,890
   Production volume ..................................  \( \div 2,500 \)
   \[ \frac{2,500}{2,500} \]
   $0.756
1. Machine operation activity cost rate per hour (actual):
   Machine operations activity cost pool amount ... $901,876
   Actual machine hours ........................... ÷ 7,673
   $117.54

2. Machine operation activity costs assigned (based on normal time):
   To RT-1:  Actual output ....................... 14,520
     Normal processing time .... x 15/60
     Hours spent ....................... 3,630
     Normal cost rate ............ x $120  $435,600
   To RT-2:  Actual output ....................... 8,625
     Normal processing time .... x 12/60
     Hours spent ....................... 1,725
     Normal cost rate ............ x $120  207,000
   To RT-3:  Actual output ....................... 6,603
     Normal processing time .... x 20/60
     Hours spent ....................... 2,201
     Normal cost rate ............ x $120  264,120
   Total ...                  $906,720

This amount is different from the total actual cost. The assignment was based on artificial rate.
3. Machine operation activity costs assigned (based on actual time):

To RT-1:  Actual hours ............ 3,648
          Rate per hour ........... x $117.539 $428,782
To RT-2:  Actual hours ............ 1,769
          Rate per hour ........... x $117.539  207,926
To RT-3:  Actual hours ............ 2,256
          Rate per hour ........... x $117.539  265,168
Total amount assigned to products $901,876
PROBLEM 7-11 (25-30 minutes)

1. Unit-level cost of inspection:
   Number of units inspected
   761,000 produced x .06 = .......... 45,660
   Unit-level inspection cost rate ... x $9 $410,940

2. Batch-level cost of inspection:
   Number of batches produced in 19x1,
   761,000 ÷ 2,450 = ................ 310.61*
   Batch-level inspection cost rate .. x $240 $74,546

* Since this is an estimate of the costs for the year, a fraction of the number would be acceptable.

3. Estimated total cost of inspection for 19x1:
   Fixed cost ...................... $338,670
   Unit-level cost ................... 410,940
   Batch-level cost ................ 74,546
   Total ........................... $824,156

4. Quality assurance costs assigned to "Ario Brothers":
   Fixed cost assigned:
   Fixed cost rate per unit,
   $338,670 ÷ 761,000 = ............ $0.445
   Units ................................ x 48,600 $21,627
   Unit-level cost assigned:
   Unit-level cost rate .......... $9
   Units inspected (48,600 units x 6%) x 2,916 26,244
   Batch-level cost assigned:
   Batch-level cost rate ............ $240
   Number of batches ............... x 6 1,440
   Total .............................. $49,311