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| http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif |
| FireOut, Inc. manufactures steel cylinders and nozzles for two models of fire extinguishers: (1) a home fire extinguisher and (2) a commercial fire extinguisher. The *home model* is a high-volume (54,000 units), half-gallon cylinder that holds 2 1/2 pounds of multipurpose dry chemical at 480 PSI. The *commercial model* is a low-volume (10,200 units), two-gallon cylinder that holds 10 pounds of multi-purpose dry chemical at 390 PSI. Both produts require 1.5 hours of direct labor for completion. Therefore, total annual direct labor hours are 96,300 or [1.5 hrs. × (54,000 + 10,200)]. Expected annual manufacturing overhead is $1,502,280. Thus, the predetermined overhead rate is $15.60 or ($1,502,208 ÷ 96,300) per direct labor hour. The direct materials cost per unit is $18.50 for the home model and $26.50 for the commercial model. The direct labor cost is $19 per unit for both the home and the commercial models.  The company's managers identified six activity cost pools and related cost drivers and accumulated overhead by cost pool as follows.   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | |  | | --- | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | | **Activity Cost Pools** | **Cost Drivers** | **Estimated Overhead** | **Expected Use of Cost Drivers** | **Expected Use of Drivers by Product** | | | --- | --- | --- | --- | --- | --- | | **Home** | **Commercial** | | Receiving | Pounds | $   70,350 | 335,000 | 215,000 | 120,000 | | Forming | Machine hours | 150,500 | 35,000 | 27,000 | 8,000 | | Assembling | Number of parts | 390,600 | 217,000 | 165,000 | 52,000 | | Testing | Number of tests | 51,000 | 25,000 | 15,000 | 10,000 | | Painting | Gallons | 52,580 | 5,258 | 3,680 | 1,578 | | Packing and shipping | Pounds | 787,250 | 335,000 | 215,000 | 120,000 | |  |  | $1,502,280 |  |  |  | | | |  | | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif |   **Hint:**  *Assign overhead using traditional costing and ABC; compute unit costs; classify activities as value- or non–value-added.* |
| http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Instructions**   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **(a)** | Under traditional product costing, compute the total unit cost of each product. Prepare a simple comparative schedule of the individual costs by product (similar to Illustration [4-4](http://edugen.wiley.com/edugen/courses/crs1865/weygandt7262/weygandt7262c04/weygandt7262/weygandt7262c04/weygandt7262c04xlinks.xform?id=weygandt7262c04-fig-0004)).   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif |  |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | |  | | --- | |  | |  |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | | **(b)** | Under ABC, prepare a schedule showing the computations of the activity-based overhead rates (per cost driver). | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | | **(c)** | Prepare a schedule assigning each activity's overhead cost pool to each product based on the use of cost drivers. (Include a computation of overhead cost per unit, rounding to the nearest cent.)   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif |  |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | |  | | --- | |  | |  |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | | **(d)** | Compute the total cost per unit for each product under ABC.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif |  |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | |  | | --- | |  | |  |  | | --- | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | | | http://edugen.wiley.com/edugen/courses/crs1865/common/art/pixel.gif | | | **(e)** | Classify each of the activities as a value-added activity or a non–value-added activity. | | |