**Manufacturing Cost Classification**

A company makes DVD players and incurs a variety of different costs. Place a check in the appropriate column if the cost is a product cost or a period cost. Further, classify each product cost as direct materials, direct labor, or manufacturing overhead.



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**Medical Instruments**

Medical Instruments produces a variety of electronic medical devices. Medical Instruments uses a standard cost system and computes prices variances at the time of purchase. One product, a thermometer, measures patient temperatures orally. It requires a silver lead with a standard length of 5 inches per thermometer. To make the leads, hollow silver tubing is purchased at a standard price of $4 per inch, cut into the required length, and then assembled into the thermometer.

There was no silver tubing in inventory when a batch of 200 thermometers was scheduled for production. Twelve hundred inches of silver tubing were purchased for $4,680 by the purchasing department for this 200-unit batch of thermometers, and 1,100 inches were used in production.

*Required:*

Compute the materials variances for silver tubing and comment on their meaning.

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**Mickles Ltd.**

Mickles Ltd. uses a standard cost system. In June, Mickles’ direct labor efficiency variance was $1,470 U and its direct labor rate variance was $825 F. Mickles manufactured 460 batches of product in June. Actual direct labor hours in June were 980 hours. Each batch calls for two standard direct labor hours per batch.

*Required:*

Calculate the standard direct labor wage rate used by Mickles in computing its direct labor variances in June.

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**Alexander Products**

Alexander Products manufactures dental equipment and uses a standard cost system. A new product (HV65) that is being introduced requires a particular type of stainless steel. Alexander purchased a quantity of this stainless steel (in meters). The following data summarize the operations regarding the purchase and use of this new stainless steel.



*Required:*

Calculate the number of meters of stainless steel purchased and the standard price per meter of the stainless steel Alexander used in its standard cost system.

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**Oaks Auto Supply**

Oaks Auto Supply just acquired a patent on an antifreeze recycler that flushes used antifreeze from a car, filters it, removes dissolved chemicals, and the returns it to the automobile without having to dispose of the old antifreeze or use new antifreeze. It is a cheaper and environmentally safer process than replacing the old antifreeze. The recycler will be sold to garages and auto service shops. The patent cost Oaks $2.2 million. The firm will have to invest another $12.6 million in plant, equipment, and working capital. Oaks has a pretax cost of capital of 20%. In order to achieve this level of sales, the firm forecasts that the sales price cannot exceed $2,500 per recycler. Variable selling commissions will be $500 per unit. Purchased parts are projected to cost $750 per unit.

*Required:*

Calculate the target conversion cost (labor and overhead) per recycler if Oaks is to achieve its sales projections and return on investment objectives.

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**AN7-X1**

A new pharmaceutical drug calls for 4.5 ounces of compound AN7-X1 per batch of 250 tablets. AN7-X1 has a standard price of $2 per ounce. An initial inventory of 8,000 ounces of AN7-X1 is purchased for $17,200. The firm produces 1,000 batches of the new drug and uses 4,600 ounces of AN7-X1. All variances are calculated as soon as possible.

*Required:*

Calculate the price and quantity variances for AN7-X1.

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