

Problem: Duty Refund

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Background:

Katie calculates the duty (tax) that Sony can legally “draw back” (have refunded) from U.S. Customs, the U.S. government agency that oversees import and export when products or parts are imported and then exported. Katie obtains information on the rates of duty and the cost of product from databases maintained in Sony’s computer system.

Problem:*

As the Duty Drawback Manager, you review the company sales reports on a routine basis. One such report notifies you of the sale of a particular computer monitor to a customer in South America. The monitor is valued at \$400 U.S. dollars, and the order was for 9,000 of these monitors. You research the origin of the product in the computer database and find that it was made in Japan and imported by Sony to the U.S., where it was stored in a warehouse until being sold. The rate of duty for the monitor (paid to U.S. Customs at the time of import) was 3% of the product value. Now that the product has been exported to South America, Sony is entitled to a refund of 99% of the duty originally paid.

Calculate the amount of money that Sony should be refunded by U.S. Customs for each monitor and the total amount of the refund for this particular sale.

Extension Activities:†

Katie Zunich explains some of the factors that make duty drawback calculations complex:

“If there are multiple products exported, the above equation would change for each product. U.S. Customs assigns a duty rate (tariff) for products—all are different.

“If the product was manufactured with imported material, each imported item in the manufactured product would have its own equation depending upon its value and duty rate. The totals are tabulated and submitted to customs for a refund.

“Although on a line item basis, the equation is simple, the most difficult aspect is the volume. Many times our claims have hundreds of lines, all with different values. It is easy to get confused.”

* All the values given for products, duty rates, and sales volume are fictional because of the proprietary nature of the actual information.

† Solutions are not provided to the extension activities because they are generally open-ended.

1. Set up a spreadsheet that can calculate the percent of duty to be refunded on this product. Construct the spreadsheet so that changes in various factors—the value of the product, the rate of duty, the number of units sold—can be handled easily.
2. Develop a spreadsheet for several fictional products, each with a different value, rate of duty, and number of units sold.

Solution: Duty Refund

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The equations used to solve the problem are as follows:

$$\text{value of monitor} \times \text{rate of duty} = \text{duty paid}$$

$$\text{duty paid} \times 99\% = \text{duty refund}$$

$$\# \text{ of monitors sold} \times \text{duty refund} = \text{total duty on sale of monitors}$$

Calculations:

$$\$400. \times .03 = \$12$$

$$\$12. \times .99 = \$11.88$$

$$\$11.88 \times 9000 = \$106,920$$