

Using Energy Guides

Use the sample guide for the refrigerator-freezer to answer the following questions. Assume the price per kilowatt is 9.2 cents and round your answers to the nearest dollar.

- What is the annual cost of operating the refrigerator-freezer?
[Answer: $$.092 \text{ per kWh} \times 800 \text{ kWh} = \74 annual cost]
- According to the label, how much would it cost to operate the most efficient refrigerator-freezer?
[Answer: $$.092 \text{ per kWh} \times 685 \text{ kWh} = \63 annual cost]
- If you keep the refrigerator for 20 years, how much would you save on energy bills?
[Answer: $20 \text{ years} \times (\$74 - 63) = \$220 \text{ savings}$]
- How much money would you save in 20 years if you buy the most efficient refrigerator-freezer versus the least efficient?
[Answer: $20 \text{ years} \times $.092 \text{ per kWh} \times (1000 - 685) \text{ kWh} = \580 savings]

Based on standard U.S. Government tests	
ENERGYGUIDE	
Washer Capacity: Standard	Brand: Rub Dub Model 1234
This Model uses 846 kWh/year	
A scale of all similar models:	
Uses Least Energy 177	Uses Most Energy 1298
Clothes washers using more energy cost more to operate. This Model's estimated yearly operating cost is:	
\$24	\$8
when used with an electric water heater	when used with a gas water heater

Based on standard U.S. Government tests	
ENERGYGUIDE	
Washer Capacity: Standard	Brand: Ducky Model 5678
This Model uses 196 kWh/year	
A scale of all similar models:	
Uses Least Energy 177	Uses Most Energy 1298
Clothes washers using more energy cost more to operate. This Model's estimated yearly operating cost is:	
\$15	\$5
when used with an electric water heater	when used with a gas water heater

Washer A: Top Load Type (\$ 429 purchase price)

Washer B: Front Load Type (\$750 purchase price)

The labels above provide information for two washers. Since the cost of operating a washer is influenced by the type of energy used to heat the water used in the washer, the labels provide information for both electric and gas water heaters. Assume the features of both machines are the same and the models are equally effective in cleaning clothes. You also know that the average lifespan of a washer is 12 years and the cost of electricity is 8.8 cents per kilowatt.

- Which washing machine has the lowest purchase price? A The lowest operating cost? B
- Taking into consideration both the purchase price and operating cost, which machine is the better buy? (Show the math that supports your answer.)

Despite the higher purchase price, machine A has the lower lifetime cost.

Machine A costs $\$429 + (12 \text{ years} \times 846 \text{ kWh/year} \times \$.088) = \$429 + 893.38 = \$1,323$

Machine B costs $\$750 + (12 \text{ years} \times 196 \text{ kWh/year} \times \$.088) = \$750 + 206.98 = \957