

5.1 PROJECT

MAKING ELECTRIC DECISIONS

A door-to-door salesperson cold calls at your house (that is, shows up at your house without prior contact) and tells you about the great deal you can get if you switch your electric provider to a clean, renewable electric supplier they represent. You don't have a current electric bill readily available, so you take down information to compare later. The salesperson tells you that the electric supplier uses 35% renewable energy and that you will be charged an introductory fixed rate of \$0.0639 per kilowatt-hour (kWh) with a base-service fee of \$73 per month, which includes distribution and fees.

1. Use the information provided by the salesperson to create a function to represent the monthly cost of electric service through the supplier, where x represents the kilowatt-hours used per month.

You find a copy of your electric bill and discover that you currently pay a fixed rate of \$0.0724 per kilowatt-hour and a base-service fee of \$65 per month. You also notice that your current supplier uses 15% renewable energy.

2. Use this information to create a function to represent the monthly cost of electric service through your current supplier, where x represents the kilowatt-hours used per month.
3. Your electric usage for the past 6 months are shown in the second column of the following table. In the third column, use the function from part 1 to calculate the monthly cost of service with the new electric supplier. In the fourth column, use the function from part 2 to calculate the monthly cost of service with the supplier you are currently using. Round your answers to the nearest cent.

Electric Service Cost Comparison			
Month	Electric Usage (in kWh)	New Supplier Cost (in \$)	Current Supplier Cost (in \$)
December	542		
January	952		
February	638		
March	626		
April	587		
May	597		

4. Based on these calculations, would you spend less money on electric service by switching to the new supplier or keeping your current supplier?
5. The information from the functions and the table might not provide you with all the information you need to make a decision. Describe two additional types of information you should consider before making a decision and how that information would be useful.
6. Based on the current information and any addition situations you've considered, would you switch to the new electric provider or stay with your current one?