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NAME: \_\_\_\_\_

1. You are now asked to help the Tree-Hugger Family calculate potential cost savings they could realize if they were to purchase new windows, a new roof, a new furnace, and new energyStar appliances.

Complete the chart to determine how much money the family could save every month on their heat, hydro and water for each new updated feature.

Item	Expense that will be reduced	% cost savings	Current monthly cost	Average Monthly Savings	New Monthly Cost after savings
Windows	Heat	30 %			Heat:
Furnace	Heat	20 %			
Roof	Heat	10 %			
Appliances	Hydro	20 %			Hydro:
	Water	20 %			Water:

2. You have a budget of \$18 000 to complete this project. It will cost \$7 200 for new windows, \$2 000 for a new roof, \$4 000 for a new furnace and \$3 000 for new appliances.

Complete the chart to determine the length of time it will take to recover the cost of each home improvement, and the total cost and monthly savings of all home improvements.

Item	Item Cost	Monthly Savings	Number of months to recover cost	Number of years (rounded) to recover cost
Windows				
Furnace				
Roof				
Appliances				
<b>Total</b>				

3. How much of the budgeted \$18,000 will remain after the home improvements? \_\_\_\_\_  
Show your calculation.
4. Why is it a good idea to leave room in the home improvement budget?
5. How many years will it take to completely recover the costs of all home improvements? \_\_\_\_\_



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6. Optional enrichment questions:

- (a) Why would it be incorrect to total all the years to answer the previous question?
- (b) Calculate the total monthly savings as a percentage of the family's total expenses?

7. Fill out a revised budget sheet with the updated monthly costs on heat, hydro, and water.

You will need to calculate “Total Deductions”, “Take-home Pay”, “Total Expenses”, and “Take Home Pay – Total Expenses”

8. Divide up the remaining money (which is now greater) into General Savings and Entertainment
- a) General Savings? \_\_\_\_\_
  - b) Entertainment? \_\_\_\_\_
9. Explain your reasoning (and include these numbers on the budget sheet).