## The Heat Is On!

Natural gas is a fossil fuel energy source. It accounts for $32 \%$ of total energy consumption in the United States. Most U.S. natural gas is used for heating and generating electricity. Wet Natural Gas (from gas and oil wells) is processed into Dry Natural Gas (with unwanted components removed). The Dry Natural Gas is then sent by pipeline to storage facilities and distribution companies and then sold to consumers.

Like gasoline, natural gas is a commodity that can fluctuate dramatically in price at any stage from the well to the consumer. Nearly 58 million households nationwide (approximately $50 \%$ ) use natural gas to heat their homes.

1. The Wilsons knew that their natural gas bills were going to be higher this winter compared to last winter so they planned to try to use less. They lowered the thermostat and decreased the use of their gas fireplace. But they were shocked when they received their November gas bill. Complete the table to compare their two November gas bills.

| Date | Therm Usage | Cost | Cost Per Therm |
| :--- | :---: | :---: | :---: |
| Last November | 207.70 | $\$ 186.87$ | $\$ .90$ |
| This November | 150.91 | $\$ 223.31$ | $\$ 1.48$ |

2. What would their November bill have been if they had used the same number of therms they used last November?
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3. Shown below is the Johnsons' monthly therm usage for a year. Calculate the percentage change in their natural gas usage from month to month. (Round your answers to the nearest 1/10th \%.)

| May ....... 55.18 |  | September... | 20.46 | $+83.0 \%$ | January ........ | 300.61 | $+20.7 \%$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| June ....... 24.52 | $-55.6 \%$ | October........ | 93.09 | $+355.0 \%$ | February...... | 338.91 | $+12.7 \%$ |
| July........ 10.22 | $-58.3 \%$ | November.... 168.98 | $+81.5 \%$ | March ......... | 203.54 | $-39.9 \%$ |  |
| August... 11.18 | $+\quad .1 \%$ | December .... 249.07 | $+47.4 \%$ | April............ | 29.84 | $-85.3 \%$ |  |

