

The weather has been bitterly cold in Alexander City since the beginning of 2015. Many residents depend on city utilities to provide natural gas to heat their homes. The rate schedule for natural gas consumption is as follows: (A therm is the unit of measure for natural gas like gallons is the unit of measure for gasoline.)

- \$15.95 monthly service charge
- \$0.33 per therm for the first 50 therms
- \$0.27 per therm for over 50 therms

You are concerned that because of the cold you have not budgeted enough to pay this month's natural gas bill. How much will 50 therms of gas cost? How much will 150 therms of gas cost? Create a piecewise defined function to represent the cost, $C(x)$, of natural gas in Alexander City. Graph the piecewise defined function. You have budgeted \$100.00 for this month's bill; how many therms of natural gas can your household consume so that you stay within budget?