Polynomial Inequalities in Multiple Representations   Name: _____ #____

Graph with key features labled and solution shaded	Solution in the context of the problem

Polynomial Inequality

The average glucose levels in a person's blood should be between 70 and 100 mg/dL one hour after eating. A person with Type 2 diabetes strives to keep glucose levels under 120 mg/dL with diet and exercise in order to avoid insulin injections. Glucose levels of one individual over the span of 72 hours can be represented with the polynomial function,

$$b(t) = 0.000139x^4 - 0.0188x^3 + 0.8379x^2 - 13.55x + 176.51$$

where glucose levels is a function of the number of hours.

For what hours were the glucose levels greater than 120 mg/dL?

Solution as an Inequality	Solution in Interval Notation
Practical: Theoretical:	Practical: Theoretical:

Solution on a number line