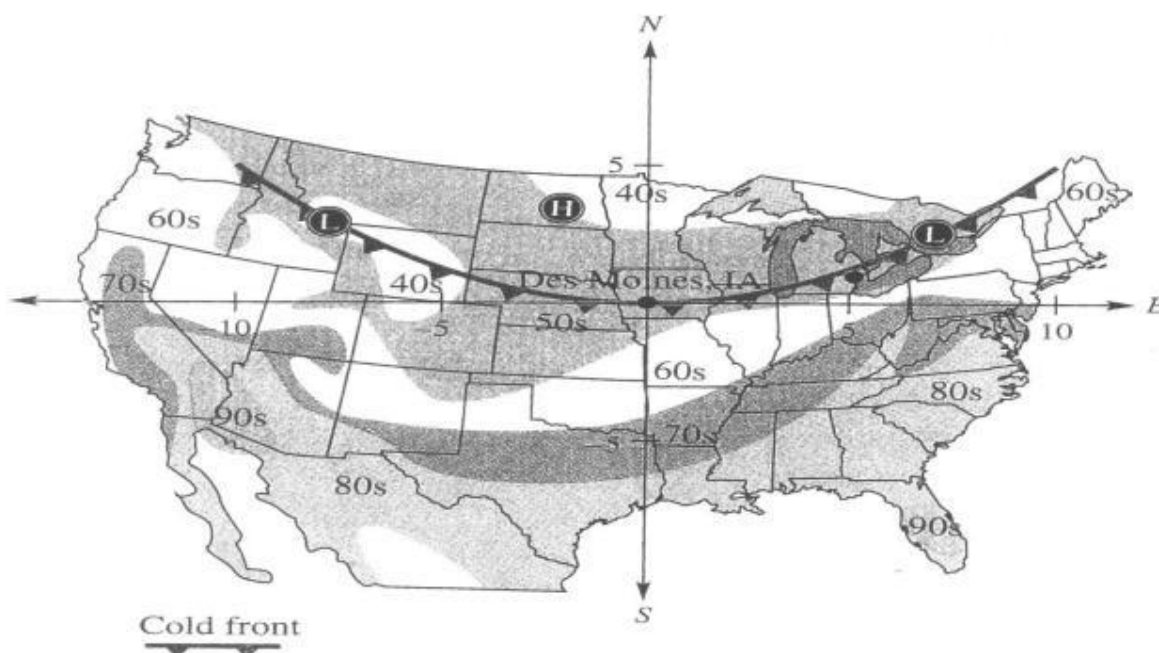


### Answer on Question #48799 – Math - Algebra

Suppose a cold front is passing through the United States at noon having a shape roughly like a parabola with its vertex at Des Moines Iowa and a stretch/shrink factor of  $1/20$  if the independent variable is measured in hundreds of miles. What type of function is this problem working with? and Is the leading coefficient positive or negative?

**Solution.**



If we put origin in Des Moines, then the equation of a cold front will be a parabola with vertex in the origin and a stretch/shrink factor  $1/20$ .

Assuming  $x$ -axis:  $W \rightarrow E$ ,  $y$ -axis:  $S \rightarrow N$ , we obtain

$$y = \frac{1}{20}x^2.$$

Leading coefficient is positive.