

Answer on Question #62829 – Math – Algebra

Question

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 the origin in Des Moines, then the equation of the cold front will be a parabola with vertex in the origin and a stretch/shrink factor $\frac{1}{20}$.

Putting x-axis $W \rightarrow E$, y-axis $S \rightarrow N$, we get $y = \frac{1}{20}x^2$.

Leading coefficient $\frac{1}{20} = 0.05$ is positive.