Quadratic Regression Example

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A. Give the equation of the least-squares regression line. Define any variables you use.

$Y =$ number of balloons needed to fill a balloon box

$V =$ is the volume (V) of the box, where $V = (height)^3$ of the box

$Y = 45.008 + 10.809V$

$Y = 45.008 + 10.809H^3$

B. Suppose the height of a box is 8ft, predict how many balloons are needed to fill the box.

$Y = 45.008 + 10.809(8)^3 \approx 5579.219$ balloons