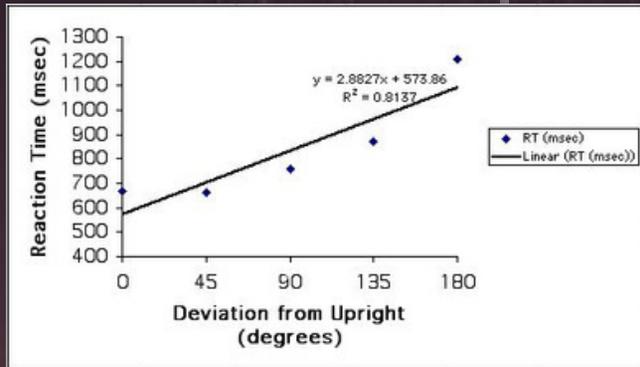
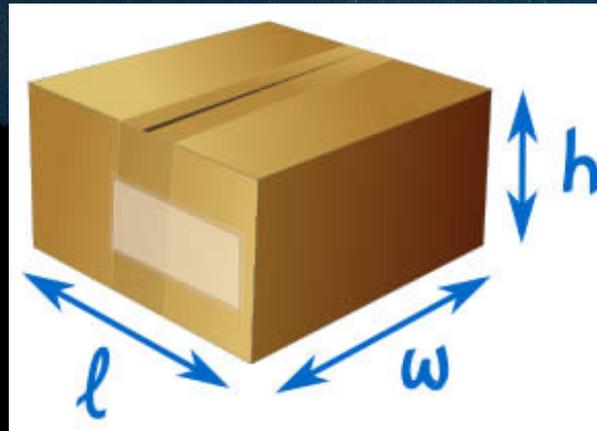


WHAT DOES THIS GRAPH TELL YOU?



LINEAR REGRESSION IS AN APPROACH FOR MODELING THE RELATIONSHIP BETWEEN A SCALAR DEPENDENT VARIABLE Y AND ONE OR MORE EXPLANATORY VARIABLES (OR INDEPENDENT VARIABLES) DENOTED X

HOW MATHEMATIC S IS USED TO MODEL NATURAL PHENOMENA?



Mathematics is an extraordinary exercise of the human mind in abstracting the results of observation to find similarities and differences between phenomena. These relations between phenomena make it possible to organize the natural world into discrete sets of objects that can be studied using similar mathematical objects and methods. Nature, as an object of mathematical study, bridges the gap between the concreteness of the everyday environment and the abstraction of mathematics. Mathematics, in turn, allows us to summarize, formalize, interpolate, and extrapolate from observations that have been recorded.

Natural Hazard

Natural hazards are naturally occurring physical phenomena caused either by rapid or slow onset events which can be geophysical (earthquakes, landslides, tsunamis and volcanic activity), hydrological (avalanches and floods), climatological (extreme temperatures, drought and wildfires), meteorological (cyclones and storms/wave surges) or biological (disease epidemics and insect/animal plagues).

Volcanoes:

A relation between the maximum distance a bomb may shoot and the initial velocity as it leaves the chute is given by the model $D = \frac{v_0^2}{g}$, where D = maximum distance, $g = 9.8\text{m/s}^2$ and v_0 = initial velocity. This function is quadratic, and may be used to find the distance if the velocity is known. More commonly, this relation has been used in the square root form $v_0 = \sqrt{gD}$ to estimate initial velocities of the bombs. Students will be asked to use this relation to find both the maximum distance of the projectile and the initial velocity, in different situations.



conclusion :

based on our finding, we concluded that volcano in Indonesia is increasing and decreasing within 2007 to 2016.

based on our model:

