

Profit



**ASSIGN  
BUSTER**

I will investigate the relationship between the Budget used to make a movie and the Gross Profit received according to the data of 50 American movies. The website <http://www.the-numbers.com/movies/records/budgets.php> displays further information on movie budgets and profits. It also states that numbers of movie profits can be both difficult to find and unreliable, as studios can keep the information a secret in order to make the movie seem more profitable, so it is important to know that with data of this kind, the reliability is always questionable.

I have chosen to investigate this relationship because it seems to be relatively strong in comparison to the rest, so I have more material to discuss and relate to outside situations. Later I will compare this relationship with different genres of movies and see if they follow a similar or different trend. The scatter graph shows a positive relationship between the amount of money spent to produce a movie and the gross amount of money it makes in the US. It follows that the more money one spends on a movie in the US, the bigger is their profit. This is expected.

The strength of this relationship is moderately good. Linear| Profit(y) = 2.14Budget(x) + 102.74| Correlation = 0.68| Quadratic| Profit(y) = 2.39Budget(x) + 0Budget(x)^2 + 98.8 | Cubic - Visual balance of scatter| Profit(y) = 7.11Budget(x) - 0.07Budget(x)^2 + 0Budget(x)^3 + 55.86| Randomly selected number between 0M and 500M Budget (millions of dollars)| Calculation (cubic model)| Profit (millions of dollars)| 58| 7.11 X 58 - (58)^2 + 0 X (58)^3 + 55.86| | 105| 7.11 X 58 - (105)^2 + 0 X (105)^3 + 55.86| | 283| 7.11 X 58 - (283)^2 + 0 X (283)^3 + 55.86| |