

Inverse Variation

When two quantities vary inversely, as one quantity increases, the other quantity decreases, and vice versa, aka ***inversely proportional***.

If a variable y varies inversely with a variable, x , then

$$y = \frac{k}{x}$$

where k is the ***constant of proportionality***.

Example

Supply & Demand: The going price for local grown corn from the farmer is \$4/dozen in season. Suppose the farmer has 1200 ears of corn per day in season, as the season ends, the supply goes down to 480 ears, what should the new price be?

We will use p = price & s = supply.

$$p = k/s$$

$$4 = k/1200$$

$$4 * 1200 = (k/1200) * 1200$$

$$4800 = k$$

$$p = k/s$$

$$p = 4800/480$$

$$p = 10$$

So by the end of the season the price will go up to \$10 per dozen!