

March 17<sup>th</sup>

**A value is increased by  $x\%$ .**

**What percent decrease returns the new quantity to its original value?**

Original amount  $A$

Increase by  $x\%$ :

$$\text{New amount} = A \times \frac{100 + x}{100}$$

$$= \frac{100A + Ax}{100}$$

To get back to the original amount, the multiplier is  $\frac{100}{100 + x}$

$$= 1 - \frac{x}{100 + x}$$

So the percentage decrease =  $\frac{100x}{100 + x}$