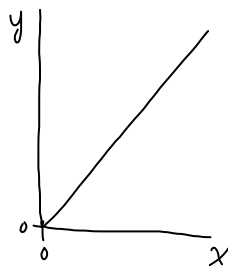


Graphical Analysis of Data

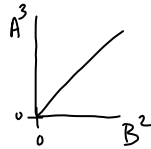


Direct proportionality
- linear with a y-intercept of zero

$$y \propto x$$

$$y = kx$$

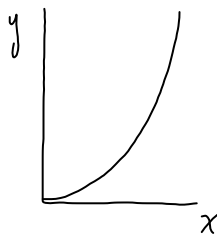
$$(y = mx + b)$$



$$A^3 \propto B^2$$

slope = proportionality constant

Power Curve



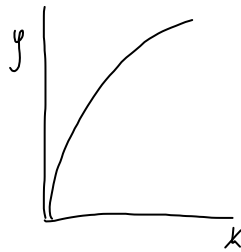
$$y \propto x^n$$

$$y = kx^n$$

$$(y = mx + b)$$

A graph of y vs x^n will be linear with a y-intercept of zero and a slope of k .

Root Curve



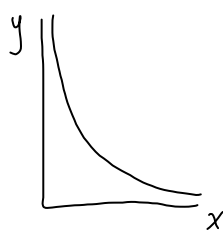
$$y \propto \sqrt[n]{x} \quad (y \propto x^{\frac{1}{n}})$$

$$y = k\sqrt[n]{x}$$

$$(y = mx + b)$$

A graph of y vs $\sqrt[n]{x}$ will be linear with a y-intercept of zero and a slope of k .

Inverse Curve



$$y \propto \frac{1}{x^n} \quad (y \propto x^{-n})$$

$$y = k\left(\frac{1}{x^n}\right)$$

$$(y = mx + b)$$

A graph of y vs $\frac{1}{x^n}$ will be linear with a y-intercept of zero and a slope of k .