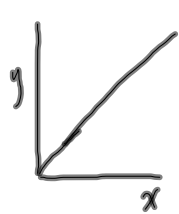
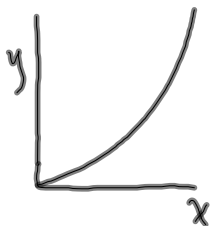


# Graphical Analysis of Data



$y \propto x$   
 $y = kx$   
 $(y = mx + b)$

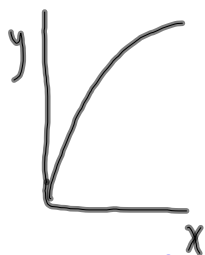
Linear



$y \propto x^n$   
 $y = kx^n$   
 $(y = m(x) + b)$

Power Curve

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



$y \propto \sqrt[n]{x}$   
 $y = k\sqrt[n]{x}$   
 $(y = m(x) + b)$

Root Curve

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



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

Inverse Curve

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

Note

$\sqrt[3]{x} = x^{\frac{1}{3}}$  ← power curve with  $0 < n < 1$

$\frac{1}{x^2} = x^{-2}$  ← power curve with  $n < 0$