Proportionalities

6. $C \propto TR^2$

$C = kTR^2$

$7.20 = k(8)(12)^2$

$k = \dfrac{7.20}{(8)(12)^2}$

$k = 0.00625$

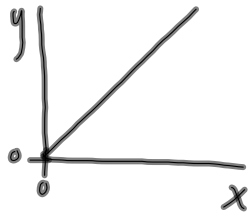
$7.20 \div 8 \div 12^2$ ✓

$7.20 \div (8 \cdot 12^2)$ ✓

$7.20 \div 8 \cdot 12^2$ ✗

Graphical Analysis of Data

Linear



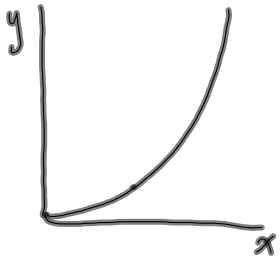
$y \propto x$ (y is directly proportional to x)

$y = kx$

$(y = mx + b)$

A graph of y and x will be linear with a slope of k and the y-intercept would be zero.

Power Curve



$y \propto x^n$

$y = k(x^n) + 0$

$(y = m x + b)$

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

Root Curve

$y \propto \sqrt[n]{x}$

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

$(y = m x + b)$

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

Inverse Curve

$y \propto \frac{1}{x^n}$

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

$(y = m x + b)$

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