

Functions

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 - Othertimes, it means $\log_e(n) = \ln(n)$

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- $\left(\frac{a}{b}\right)^{-n} = \left(\frac{b}{a}\right)^n \quad \forall a, b \neq 0$

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- $\frac{\log_x n}{\log_x m} = \log_m n$

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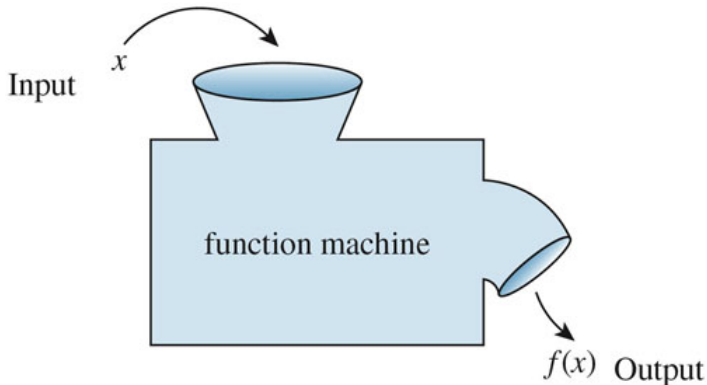
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- $y = mx + b$
 - m is the slope (for every one unit increase in x , y increases m units)
 - b is the x -intercept: the value of y when $x = 0$

Linear functions

```
ggplot(data.frame(x=c(-3, 3)), aes(x)) +  
  stat_function(fun=function(x)-2*x+3, geom="line") +  
  stat_function(fun=function(x)(1/2)*x+1)
```

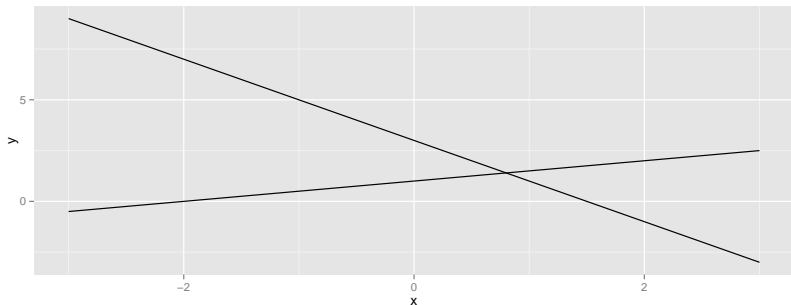


Figure 1.

Quadratics

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- $y = ax^2 + bx + c$

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```
ggplot(data.frame(x=c(-3,4)), aes(x)) +  
  stat_function(fun=function(x)2*x^2, color="red") +  
  stat_function(fun=function(x)x^2, color="green") +  
  stat_function(fun=function(x)-2*x^2 + 6*x -4) +  
  ylim(c(-5, 5))
```

