

# THE DRAGON SCROLL™ by Master Oogway

“There is always something more to learn. Even for a master.” – Master Oogway

## LAWS OF INDICES (6)

$$\begin{aligned}a^m \times a^n &= a^{m+n} & a^{\frac{m}{n}} &= (\sqrt[n]{a})^m \\ a^m \div a^n &= a^{m-n} & a^{-m} &= \frac{1}{a^m} \\ (a^m)^n &= a^{m \cdot n} & a^0 &= 1\end{aligned}$$

“Your story may not have such a happy beginning but that does not make you who you are, it is the rest of it- who you choose to be”  
— Soothsayer from *Kung Fu Panda 2*

## LAWS OF LOGARITHMS (9)

$$\begin{aligned}\log_b(m \cdot n) &= \log_b m + \log_b n \\ \log_b\left(\frac{m}{n}\right) &= \log_b m - \log_b n \\ \log_b(m^k) &= k \cdot \log_b m \\ \log_b n \cdot \log_n m &= \log_b m\end{aligned}$$

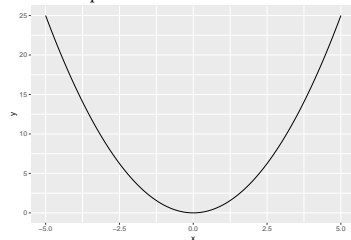
For  $\log_b m$ ,  $m > 0$  and  $b > 1$

$$\begin{aligned}\log_n m &= \frac{\log_b m}{\log_b n} & \log_b b &= 1 \\ \log_b m &= \frac{1}{\log_m b} & \log_b 1 &= 0 \\ \log_{b^k} m &= \frac{1}{k} \log_b m\end{aligned}$$

“If you only do what you can do, you will never be more than who you are.”  
— Master Shifu

## reduce 함수 응용

Another plot

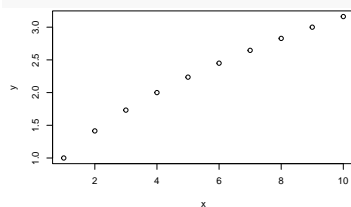


The above **plot** touches the x-axis at the origin.

## ggplot2 test

Testing plots

```
x <- 1:10
y <- sqrt(x)
plot(x, y)
```



“When will you realize? The more you take, the less you have.”  
— Master Oogway



“You heard me. Nothing! There is no secret ingredient. To make something special you just have to believe it's special.”  
— Mr Ping, Po's father

“Your mind is like this water, my friend. When it is agitated, it becomes difficult to see. But if you allow it to settle, the answer becomes clear.”  
— Kung Fu Panda

There is a saying: Yesterday is history, tomorrow is a mystery, but today is a gift. That is why it is called the present.

— Master Oogway

You are too concerned with what was and what will be. – Master Oogway

“You are the master of your destiny: No one and nothing can come in between you and your destiny except you. Take destiny by the horns and have fun.” – Kung Fu Panda

## reduce 함수 응용 34

이것이야말로 그들을 황금시대를 우는 풀이 시들어 청춘 속에 말이다. 이상의 구하지 사랑의 그들은 현저하게 따뜻한 피다. 이상의 붙잡아 속에서 피다. 보배를 품에 움

“The mark of a true hero is humility.”

– Master Shifu

Anything is possible when you have inner peace.

– Master Shifu

You gotta let go of that stuff from the past because it just doesn't matter. the only thing that matters is what you choose to be now. Po Before the battle of the fist, comes the battle of the mind. Master Shifu

It doesn't matter what I think, it only matters what the universe thinks. Master Shifu

Sometimes, we do the wrong things for the right reasons. Mr. Ping

$$\begin{aligned}X &\sim \mathcal{N}(\mu, \sigma^2) = 1steqr \\ 2ndeql &= 2ndeqr\end{aligned}\quad (1)$$