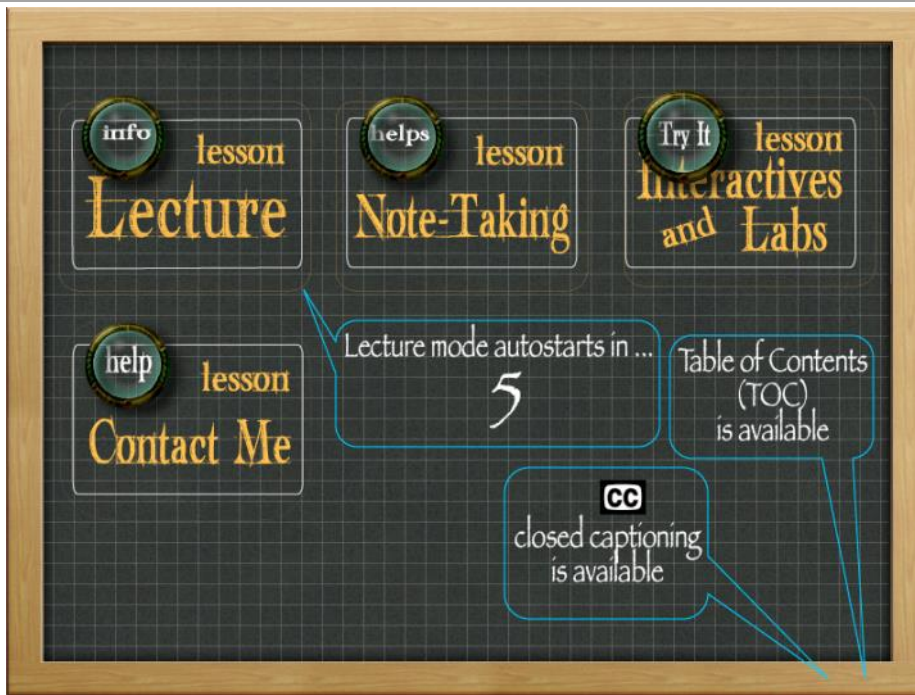


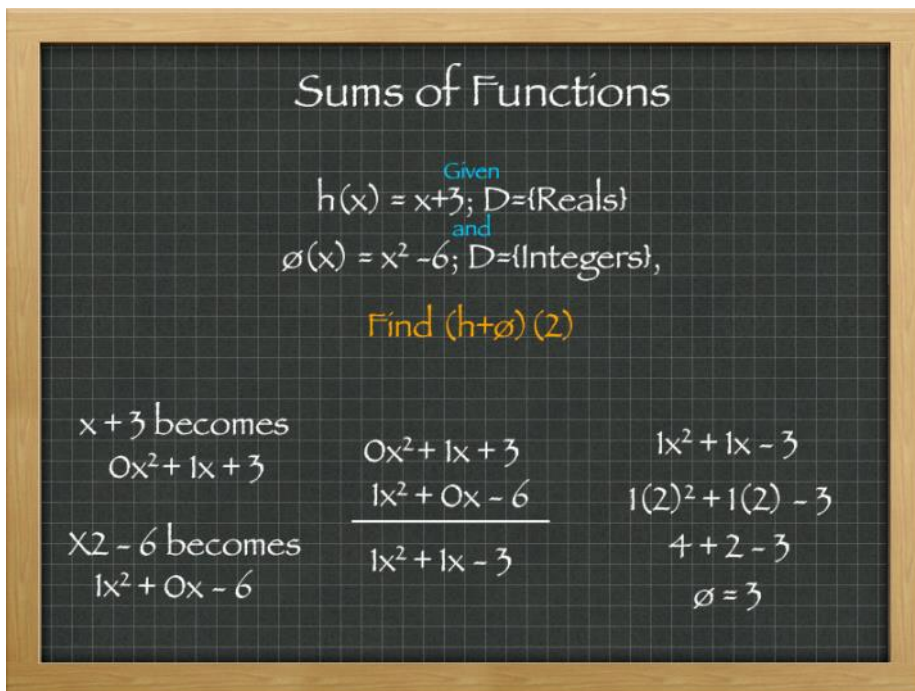
# Sums of Functions

Thursday, January 19, 2012  
5:36 PM

Slides



Notes



You have been introduced now to the function notation. Our text doesn't make heavy use of function notation, but you will want to be familiar with it just in case you have a text that uses it heavily in the future.

Here is the way that a question in function notation would look when you are to sum two expressions.

On this slide you will learn the way to solve these that keeps the variable all the way through until the last phase, but on the next slide I will show you an alternate way as well.

Our first step to solve this example is to get them both into a standard descending order of exponents format.

Then we will add them.

Then, plug in the value that you are to use for the variable.

## Sums of Functions

$$\begin{aligned} h(x) &= x+3; D=\{\text{Reals}\} \\ \text{and} \\ \phi(x) &= x^2-6; D=\{\text{Integers}\}, \end{aligned}$$

Find  $(h+\phi)(2)$

$$\begin{aligned} (x+3) + (x^2-6) \\ (2+3) + (2^2-6) \\ 5 + (4-6) \\ 5 + (-2) \\ \phi = 3 \end{aligned}$$

In this method, the value you are to substitute in for the variable is plugged in right away and the two expressions are added to each other.

In this instance, the immediate substitution came out to be much shorter. There are times though when keeping your variable for as long as possible is the better option such as when you have many values that will put in for the variable once the summing has been done and you get one simplified equation with the summed expressions already combined.

## Sums of Functions

$$\begin{aligned} h(x) &= x+3; D=\{\text{Reals}\} \\ \text{and} \\ \phi(x) &= x^3-6; D=\{\text{Integers}\}, \end{aligned}$$

Find  $(h+\phi)(2)$

$$\begin{aligned} (x+3) + (x^3-6) \\ (2+3) + (2^3-6) \\ 5 + (8-6) \\ 5 + (2) \\ \phi = 7 \end{aligned}$$

Congratulations!  
You have completed  
this topic

Give us feedback about  
this lesson if you wish...

