I'll start by showing you the traditional method, but then I'll explain what's really going on and show you how you can do it in your head. It'll be easy!

Given some polynomial guy

$$f(x) = \frac{ax^n + \dots}{bx^m + \dots} \leftarrow \frac{\text{nth degree polynomial}}{\text{mth degree polynomial}}$$

- If n < m , then the x-axis is the horizontal asymptote.
- If n = m, then the horizontal asymptote is the line  $\frac{a}{b}$
- If | > | , then there is no horizontal asymptote. (There is a slant diagonal or oblique asymptote.)

Yeah, yeah, you COULD just memorize these things... but it's way better to KNOW what's going on. Then you can just do it.

Cornell Notes	Topic/Object	1,4 Composite Functions	Name:	
X	(aka function composition)		Class/Period:	
Decades of College Docume		0.0.1011 2011 00311 1011 7	Date: 10/12/16	
Essential Question: How can I apply the results of one				
function to another?				
Questions:		Notes: The composition of	the function f	
		with g is written as f (g(x)) which is read "fofgofx".  or (fog)(x); which is		
		or L fogil(x), which is		
		read "f composed with g of x"		
		Note: when you "evaluate" a function, you "plug" a number in anywhere		
		the variable is, Then simplify to		
Find t		Find the output	the output.	
	Fr ( ) = 2 × + 3		1= 3×+3	
		Ext Given $f(x) = 2x+3$ f(5) = 2(5)+3 = 10+3=13		
		J - ,	= 10+3 =13	
		At the December of the		
		* Function compasition	١,	
		1		