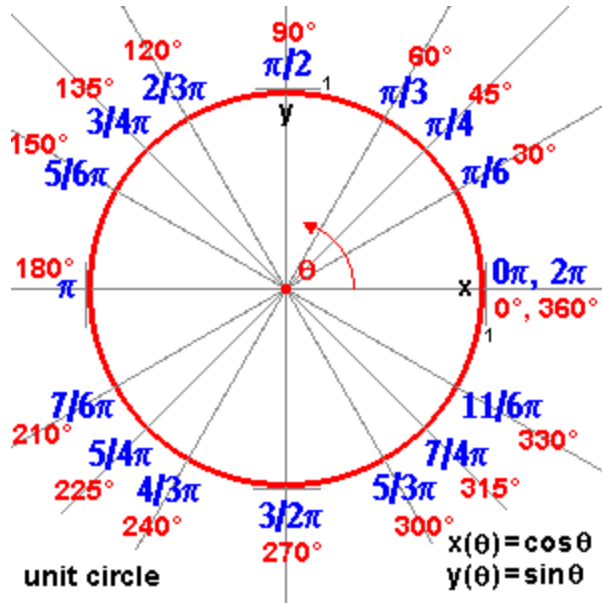


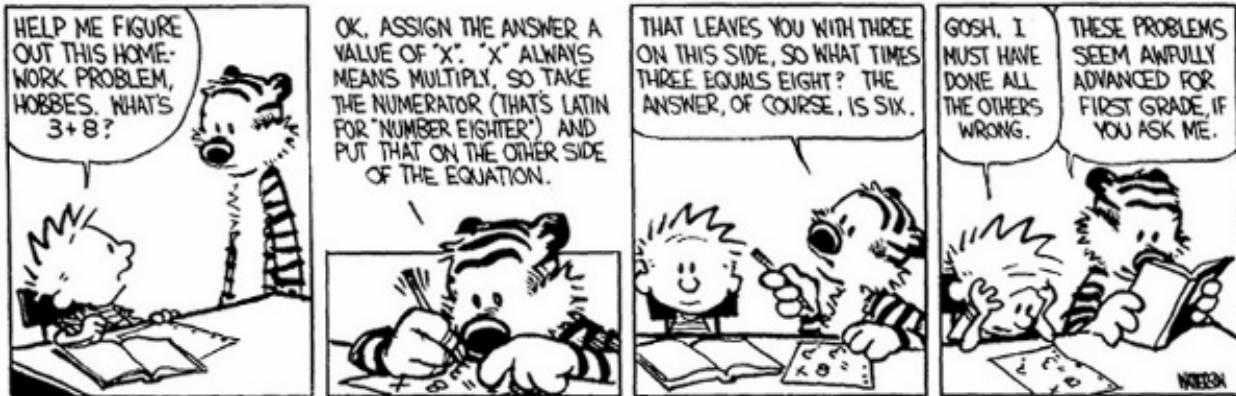
## Precalculus Review Notes (Part II)

Jean Yang



### Domain and Range of Trig Functions

$D\sin x = \mathbb{R}$	$D\sin^{-1}x = [-1, 1]$
$R\sin x = [-1, 1]$	$R\sin^{-1}x = [-\pi/2, \pi/2]$
$D\cos x = \mathbb{R}$	$D\cos^{-1}x = [-1, 1]$
$R\cos x = [-1, 1]$	$R\cos^{-1}x = [0, \pi]$
$D\tan x = \mathbb{R} - \{\text{odd } \pi/2\}$	$D\tan^{-1}x = (-\pi/2, \pi/2)$
$R\tan x = (-\infty, \infty)$	$R\tan^{-1}x = (-\pi/2, \pi/2)$
$D\cot x = \mathbb{R} - \{\pi\text{'s}\}$	$D\cot^{-1}x = (0, \pi)$
$R\cot x = (-\infty, \infty)$	$R\cot^{-1}x = (0, \pi)$
$D\sec x = \mathbb{R} - \{\text{odd } \pi/2\}$	$D\sec^{-1}x = (-\infty, -1] \cup [1, \infty)$
$R\sec x = (-\infty, -1] \cup [1, \infty)$	$R\sec^{-1}x = [0, \pi/2) \cup (\pi/2, \pi]$
$D\csc x = \mathbb{R} - \{\pi\text{'s}\}$	$D\csc^{-1}x = (-\infty, -1] \cup [1, \infty)$
$R\csc x = (-\infty, -1] \cup [1, \infty)$	$R\csc^{-1}x = [0, \pi/2) \cup (\pi/2, \pi]$



### Precalculus review notes

<http://www.math.hawaii.edu/~ralph/Classes/215/precalreview.pdf>  
[http://www.math.tntech.edu/MATHGO/Precalculus\\_Review/](http://www.math.tntech.edu/MATHGO/Precalculus_Review/)

### Precalculus review tests

<http://www.math.vt.edu/academic/undergraduate/calcdiag/calcdiag.html>  
<http://cgi1.math.umb.edu/~greeley/PreCalculusReview/Diagnostics.cgi>  
<http://www2.msstate.edu/~ta38/teaching/f02math1763/quizzes/precalcrevquiz1.html>  
<http://www2.msstate.edu/~ta38/teaching/f01math1713/quizzes/precalcrevquiz2.html>  
<http://www.ima.umn.edu/~miller/precalctest.pdf>

### Exponent Review

$a^p a^q = a^{p+q}$   
 $a^p / a^q = a^{p-q}$   
 $(a^p)^q = a^{pq}$