

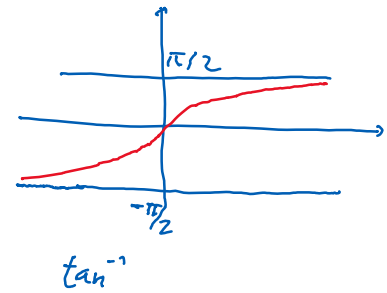
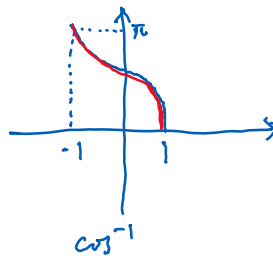
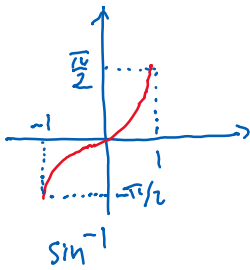
# Lecture 6

Wednesday, May 15, 2024 8:36 AM


More practice on inverse functions:

$$\cos^{-1}\left(\frac{\sqrt{3}}{2}\right), \cos^{-1}\left(-\frac{1}{2}\right), \cos^{-1}(0), \cos^{-1}(-1), \tan^{-1}\left(\frac{1}{\sqrt{3}}\right), \tan^{-1}(-\sqrt{3}).$$

Graph of inverse functions:




## Angle measure


 → measure the openness of an angle




There are several ways of measuring an angle:

\* Using degree:


  
360°  
full angle  
complete angle  
full turn

  
180°  
straight angle

  
90°  
right angle

  
< 90°  
acute angle

  
obtuse angle

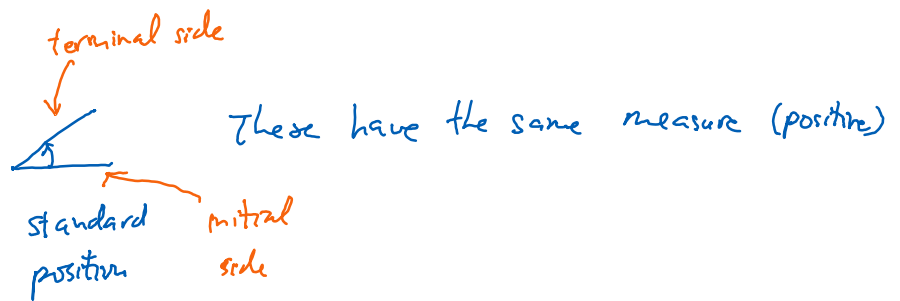
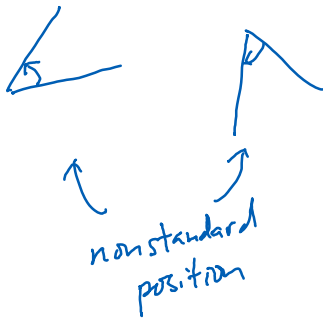
  
> 180°  
< 360°  
reflex angle

We will give angle an orientation, to be able to subtract angles:

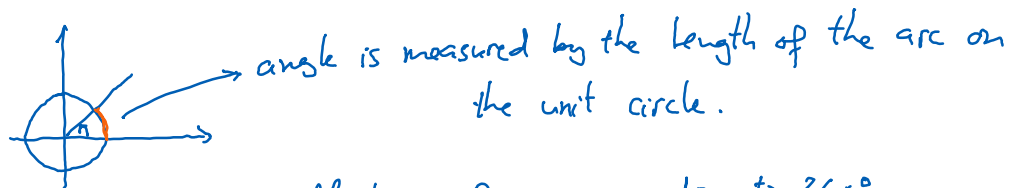

  
 counter clock-wise: positive


  
 clock wise: negative

\* standard position



\* Using radian

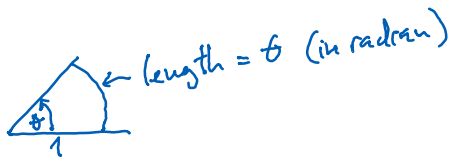


full turn:  $\underbrace{2\pi}_{\text{radians}}$ , corresponding to  $360^\circ$

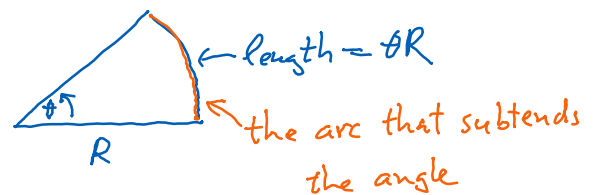
$$1 \text{ rad} = \frac{360^\circ}{2\pi} = \frac{180^\circ}{\pi}$$

\* Practice converting radian to degree and vice versa.

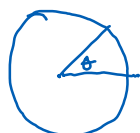
\* length of an arc:



Zoom  
with ratio R



\* area of a circular sector



$\theta$ : central angle  
 area =  $\frac{1}{2} r^2 \theta$

\* Angular speed vs linear speed...