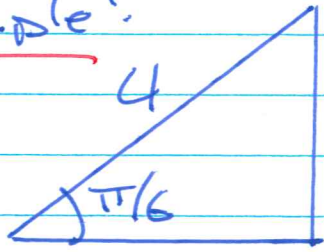


①

- Diagnostic test } Completion.
- MAPS
- Precalc review course on Connect
 - links to (lots of) Webwork problems.
- ~~Tests~~ → B
Labs: some of you will be moved
to Thurs. 12:30 - 2 Lab
 - if it works with your schedule.
- MLC is open! (Math Learning Centre)
 - in LSK 301 and 302.
 - Mon-Fri. 11am - 6pm.
- HW1 - due Monday.
 - Have one problem complete and written nicely for Friday's class.
- Composition note online.

2

Example:



Find. l . "SOH"

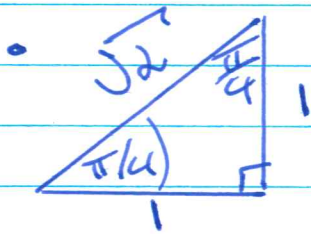
$$4 \sin(\pi/6) = l.$$

$$l = 4 \sin(\pi/6) = 4 \cdot \frac{1}{2} = 2.$$

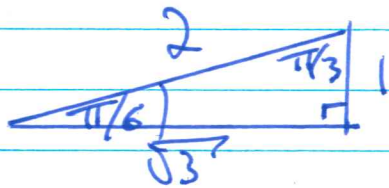
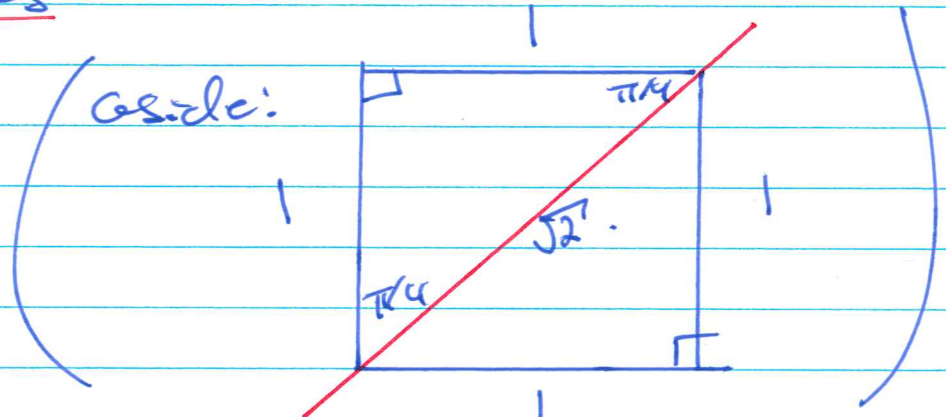
↑ how to get this.

We need the special triangles and/or unit circle.

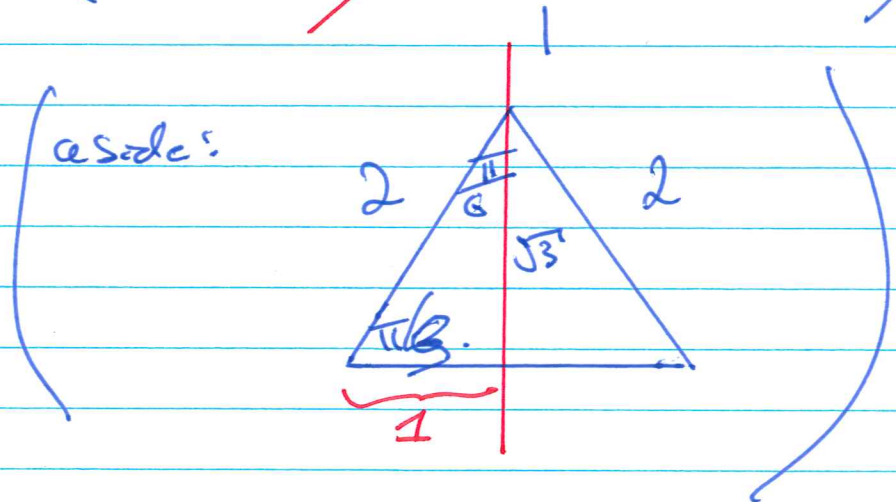
Special Triangles:



"45-45-90"



"30-60-90"



③

Σ_0
 $\sin(\pi/6) = 1/2$

$\cos(\pi/6) = \sqrt{3}/2$

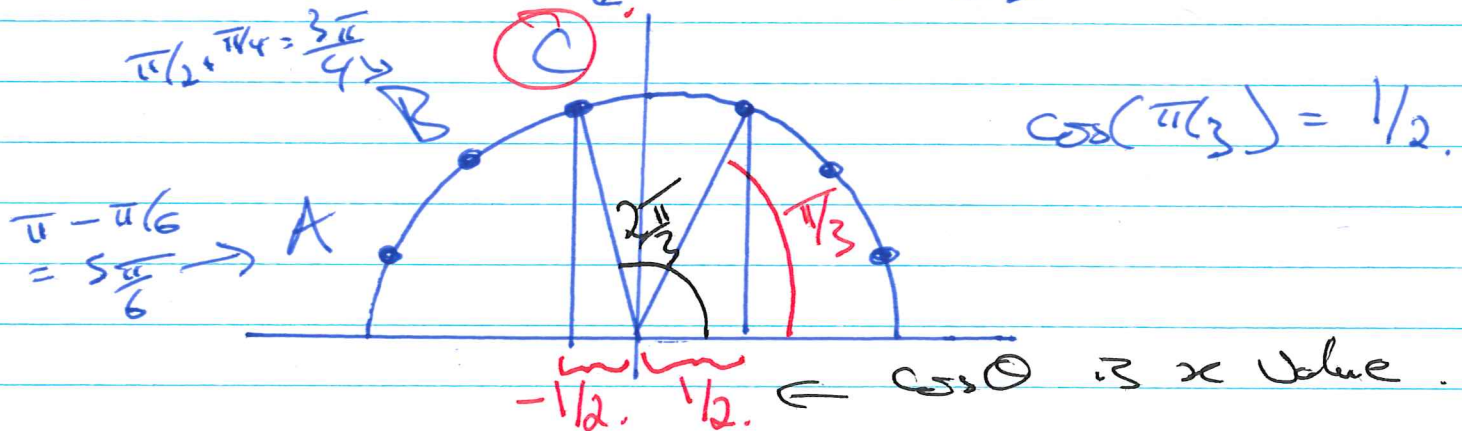
$\sin(\pi/4) = 1/\sqrt{2}$

$\cos(\pi/4) = 1/\sqrt{2}$

$\sin(\pi/3) = \frac{\sqrt{3}}{2}$

$\cos(\pi/3) = 1/2$

Example: Find $\cos(2\pi/3)$



Check: Which angle is $2\pi/3$?

$\pi/2 + \pi/6 = \frac{3\pi}{6} + \pi/6 = 4\pi/6 = 2\pi/3$

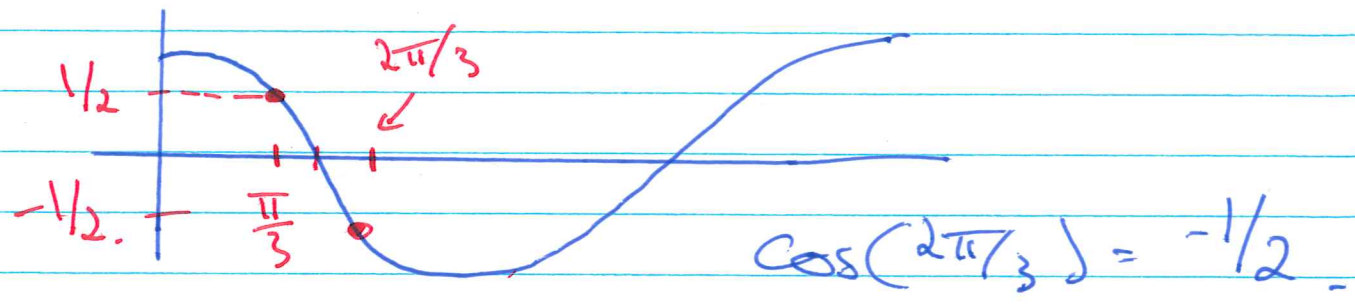
$\left(\frac{2\pi}{3} - \pi/2 = \pi/6 \right)$

$\cos(\pi/3) = 1/2$

$\cos(2\pi/3) = -\cos(\pi/3) = -1/2$

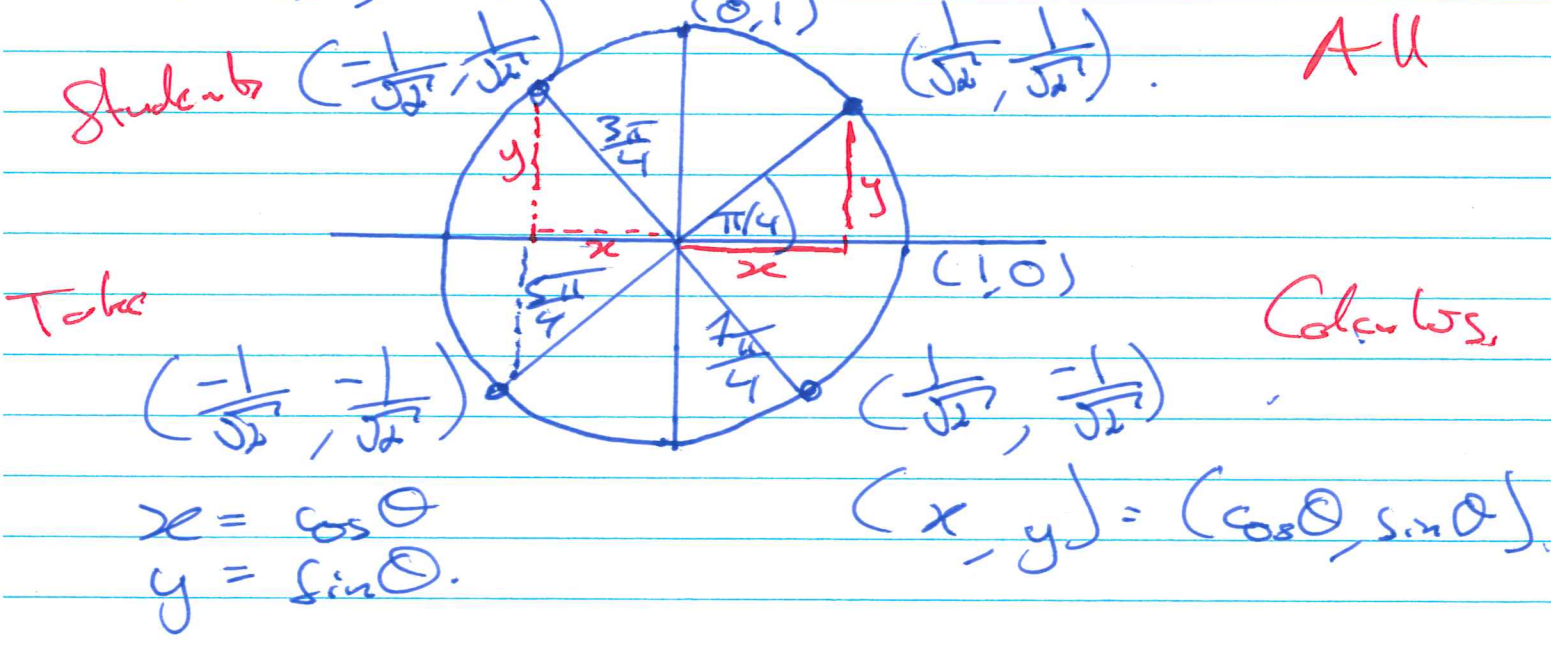
4

Alternatively, we can investigate the graph of \cos .



The unit circle:

Let's go around the unit circle in multiples of $\pi/4$.



- ① $\pi/4, 2\pi/4, 3\pi/4, \frac{4\pi}{4}, \frac{5\pi}{4}$
- $\pi/2, \frac{\pi}{4}$
- $\frac{3\pi}{2}, \frac{6\pi}{4}, \frac{7\pi}{4}$

⑤- aside:

$$\frac{\sqrt{2}}{2} \quad \text{vs.} \quad \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

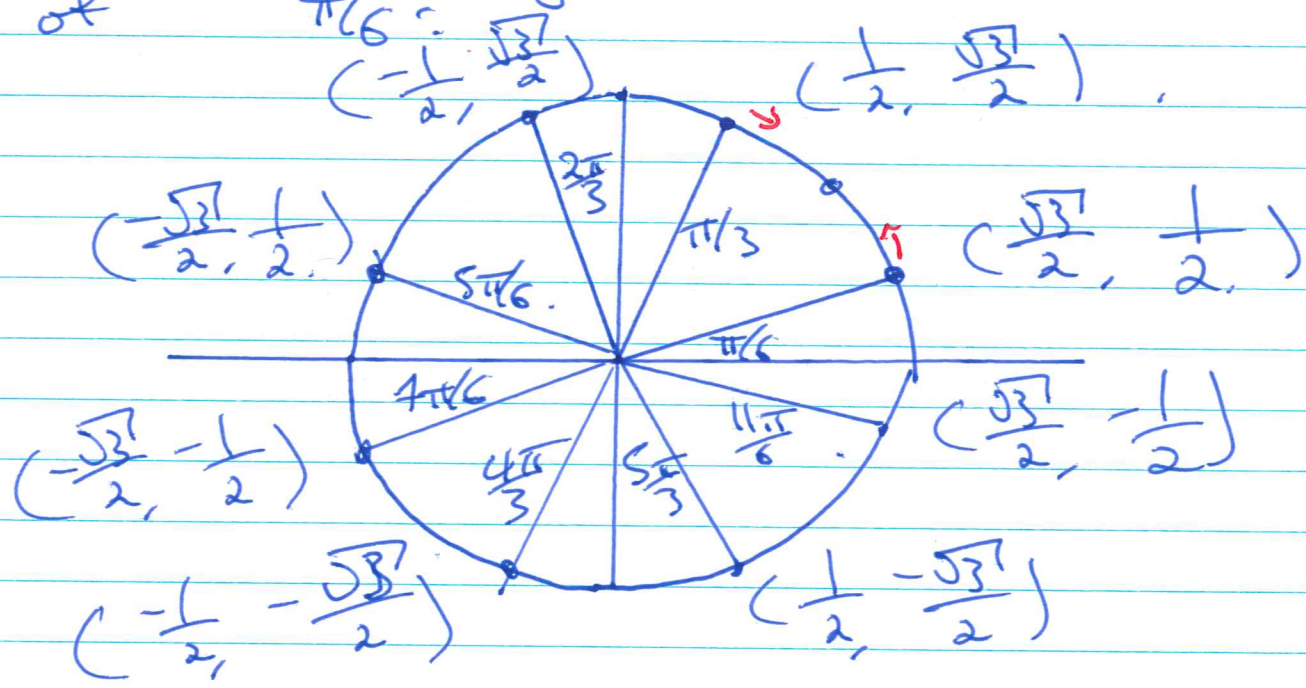
Now, let us go around in multiples of $\pi/6$:

S

A

T

C



- $\frac{\pi}{6}, \frac{2\pi}{6}, \frac{3\pi}{6}, \frac{4\pi}{6}, \frac{5\pi}{6}, \frac{6\pi}{6}$
- " " " " " "
- $\frac{\pi}{3}, \frac{\pi}{2}, \frac{2\pi}{3}, \pi$

- $\frac{7\pi}{6}, \frac{8\pi}{6}, \frac{9\pi}{6}, \frac{10\pi}{6}, \frac{11\pi}{6}$
- " " " " "
- $\frac{4\pi}{3}, \frac{3\pi}{2}, \frac{5\pi}{3}$