

Today

- Trig review

- Reminders:

- OSH 7 due Monday, A11 tomorrow

- Final exam – Dec 6 @ 3:30 in SRC (ABC)



Trig review

• If θ is measured counterclockwise from the positive x axis we define \sin and \cos so that

(A) $x = \sin(\theta)$, $y = \tan(\theta)$.

(B) $x = \tan(\theta)$, $y = \sin(\theta)$.

(C) $x = \sin(\theta)$, $y = \cos(\theta)$.

(D) $x = \cos(\theta)$, $y = \sin(\theta)$.

Trig review

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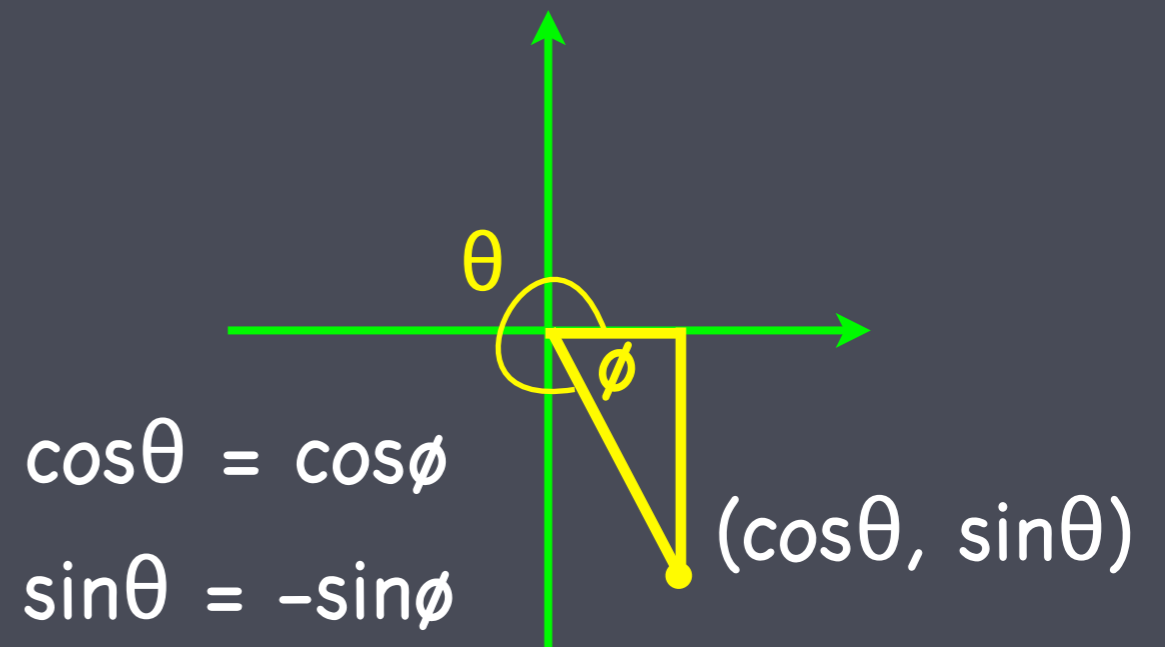
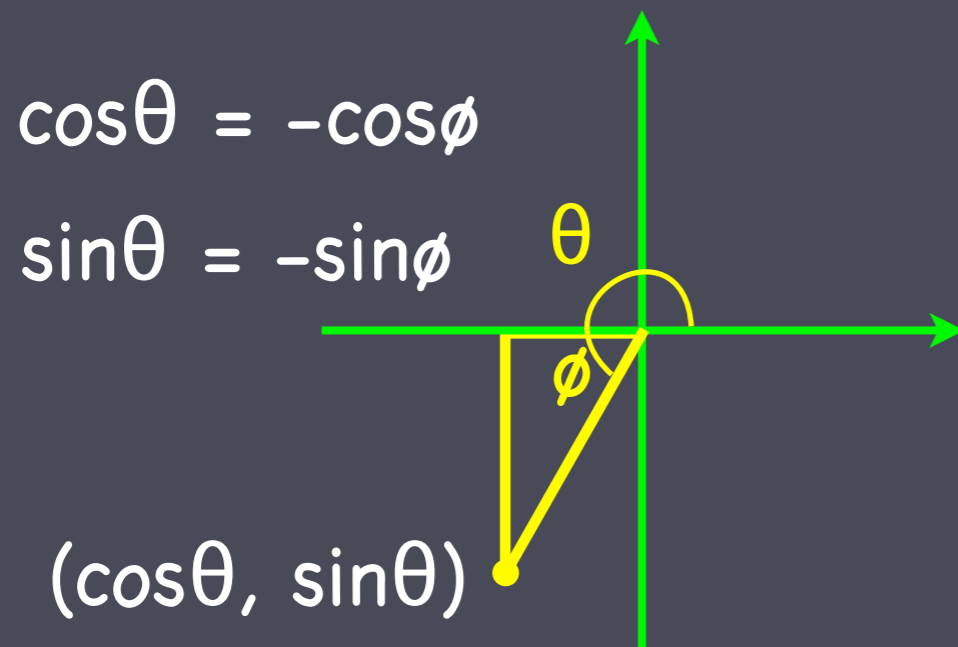
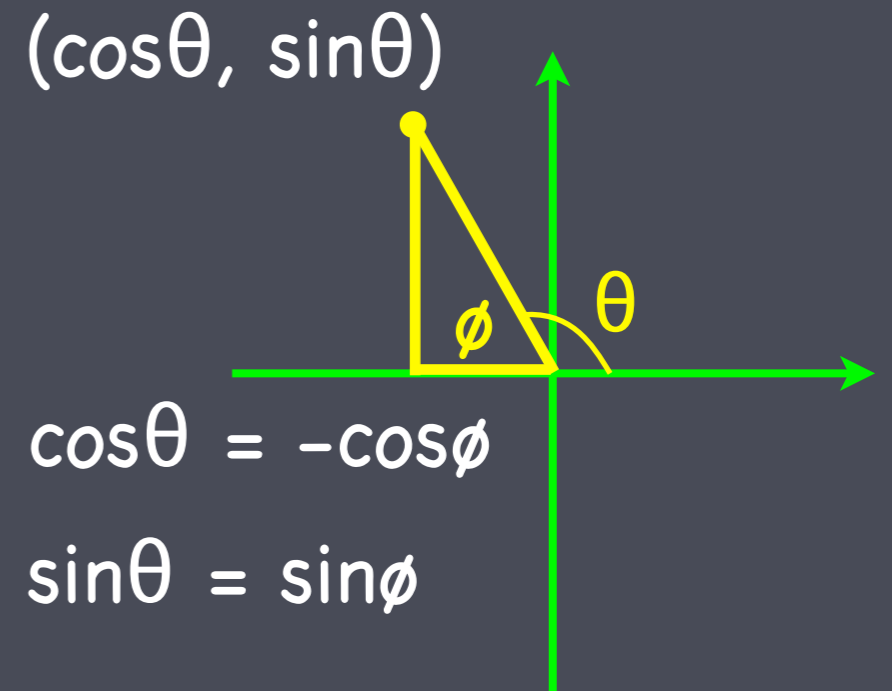
(C) $x = \sin(\theta)$, $y = \cos(\theta)$.

(D) $x = \cos(\theta)$, $y = \sin(\theta)$.

Trig review



Learn special angles in Quad I
and modify signs for other Quads.



Trig review

- The other trig functions:

- $\tan\theta = \sin\theta / \cos\theta$

- $\csc\theta = 1 / \sin\theta$

- $\sec\theta = 1 / \cos\theta$

- $\cot\theta = 1 / \tan\theta$

Trig review

• Which of the following is not a trig identity?

(A) $1 + \cot^2\theta = \csc^2\theta$

(B) $\tan^2\theta + 1 = \sec^2\theta$

(C) $\sin(2\theta) = 2 \sin\theta \cos\theta$

(D) $\cos(\theta) = \sin(\theta - \pi/2)$

(E) $\sin(\theta) = \cos(\theta - \pi/2)$

Trig review

Which of the following is not a trig identity?

(A) $1 + \cot^2\theta = \csc^2\theta$

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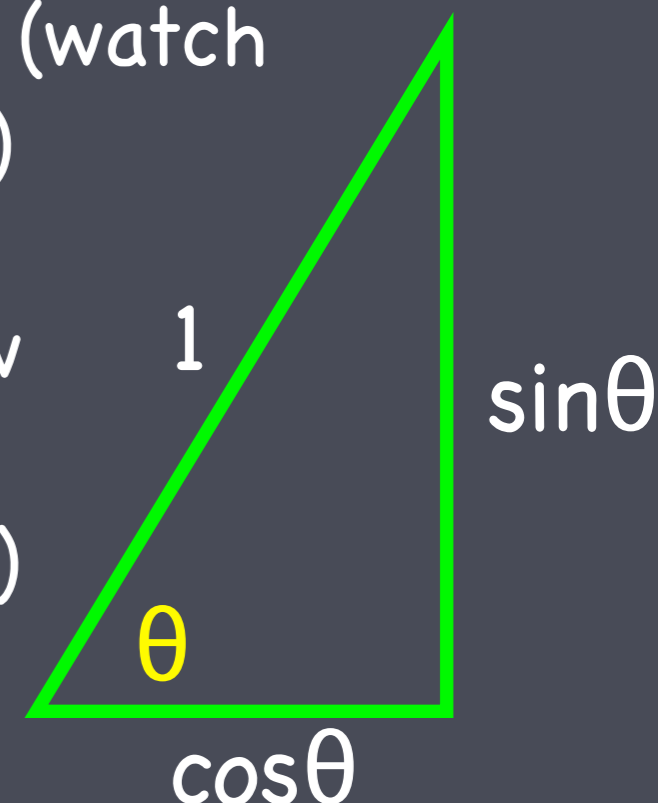
(E) $\sin(\theta) = \cos(\theta - \pi/2)$

$$\frac{\sin^2\theta + \cos^2\theta}{\sin^2\theta} = \frac{1}{\sin^2\theta}$$

Use $\sin(A+B)$ (watch today's 2nd video)

Know graphs, how to shift or use $\sin(A+B)$, $\cos(A+B)$

$$\cos(A+B) = \cos A \cos B - \sin A \sin B$$



Trig review

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

(A) $\frac{\sqrt{3}}{2}$

(B) $-\frac{\sqrt{3}}{2}$

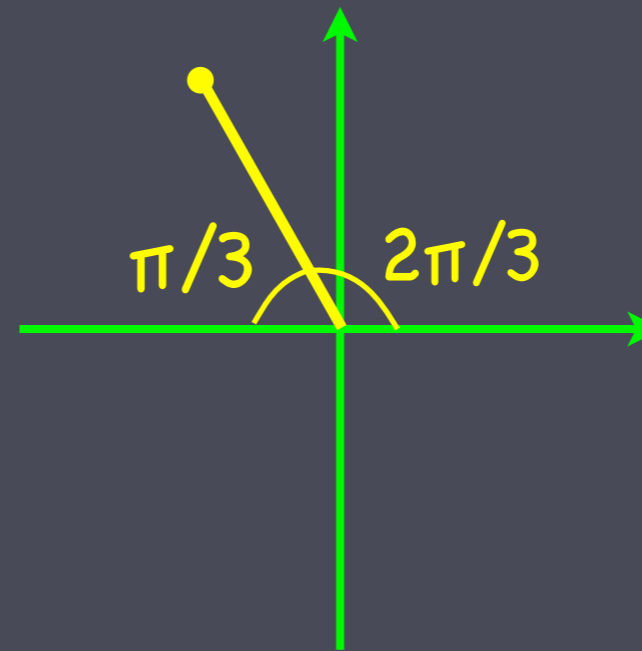
(C) $\frac{1}{2}$

(D) $-\frac{1}{2}$

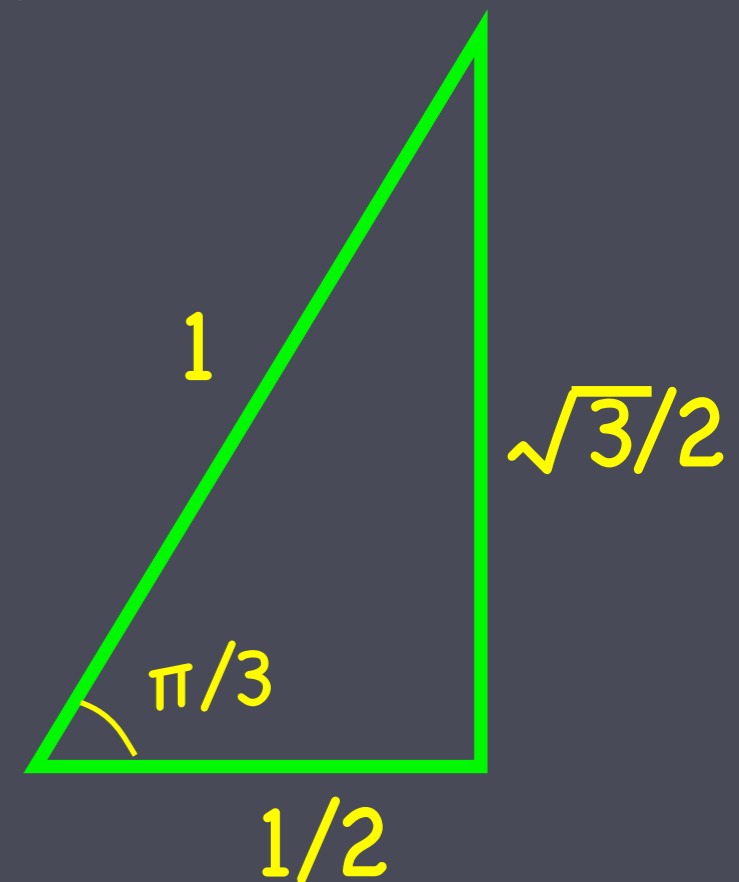
Trig review

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

- (A) $\frac{\sqrt{3}}{2}$
- (B) $-\frac{\sqrt{3}}{2}$
- (C) $\frac{1}{2}$
- (D) $-\frac{1}{2}$



And $2\pi/3$ is in Quad II so $\cos(2\pi/3) < 0$.



Trig review

$$\tan(\pi/4) =$$

(A) $\frac{1}{\sqrt{2}}$

(B) 1

(C) $\sqrt{2}$

(D) $\frac{1}{2}$

Trig review

$$\tan(\pi/4) =$$

(A) $\frac{1}{\sqrt{2}}$

(B) 1

(C) $\sqrt{2}$

(D) $\frac{1}{2}$

Trig review

Which of the following is false?

(A) $\cos(\arctan(\sqrt{3})) = 1/2$

(B) $\sin(\arccos(1/2)) = \sqrt{3}/2$

(C) $\arctan(1) = \pi/4$

(D) $\arcsin(1/2) = \pi/3$

(E) $\sin(3\pi/2) = -1$

Note: $\cos^{-1}(x) = \arccos(x)$, $\tan^{-1}(x) = \arctan(x)$.

Trig review

Which of the following is false?

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(B) $\sin(\arccos(1/2)) = \sqrt{3}/2$

(C) $\arctan(1) = \pi/4$

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