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(θ), y=tan(θ).

(B) x=tan(θ), y=sin(θ).

(C) x=sin(θ), y=cos(θ).

(D) x=cos(θ), y=sin(θ).

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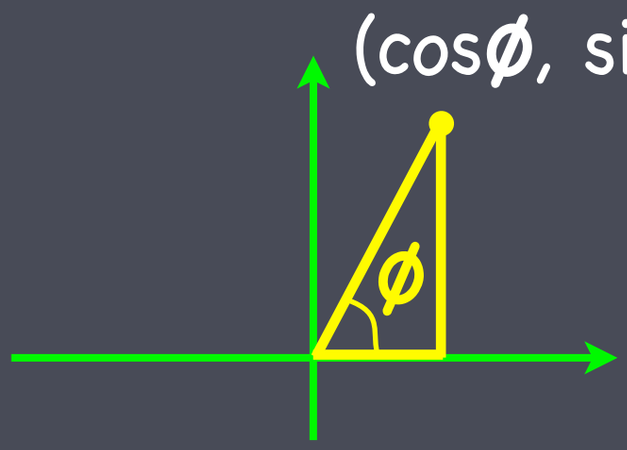
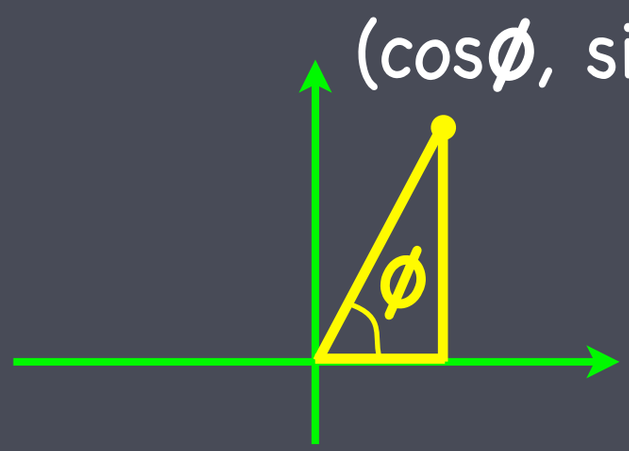
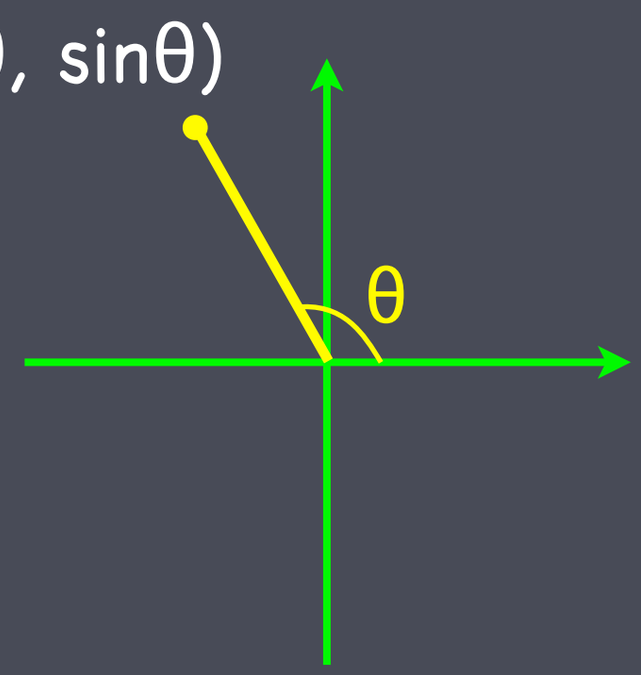
Trig review



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

Trig review





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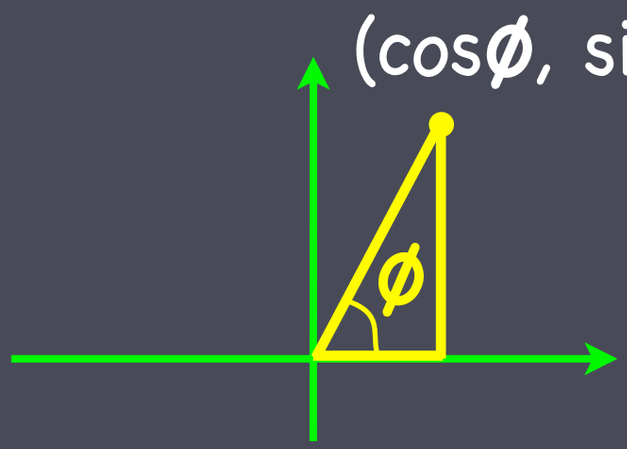

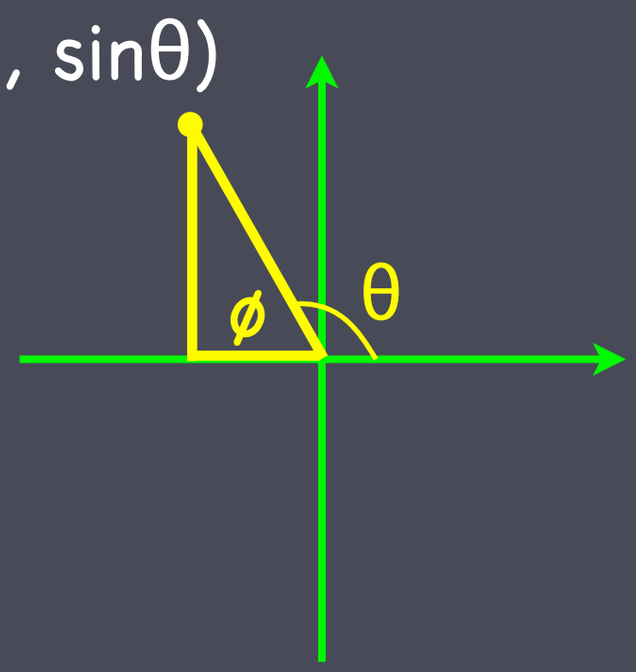

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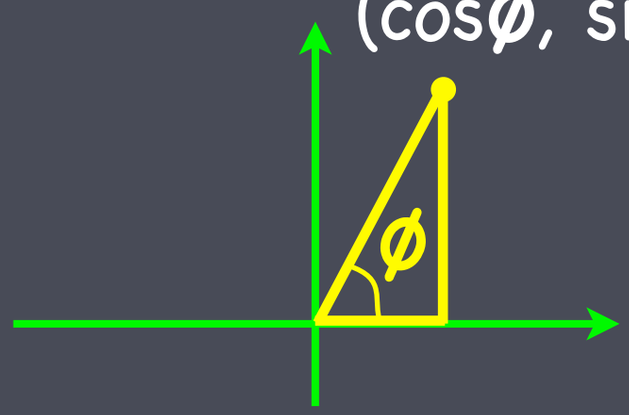

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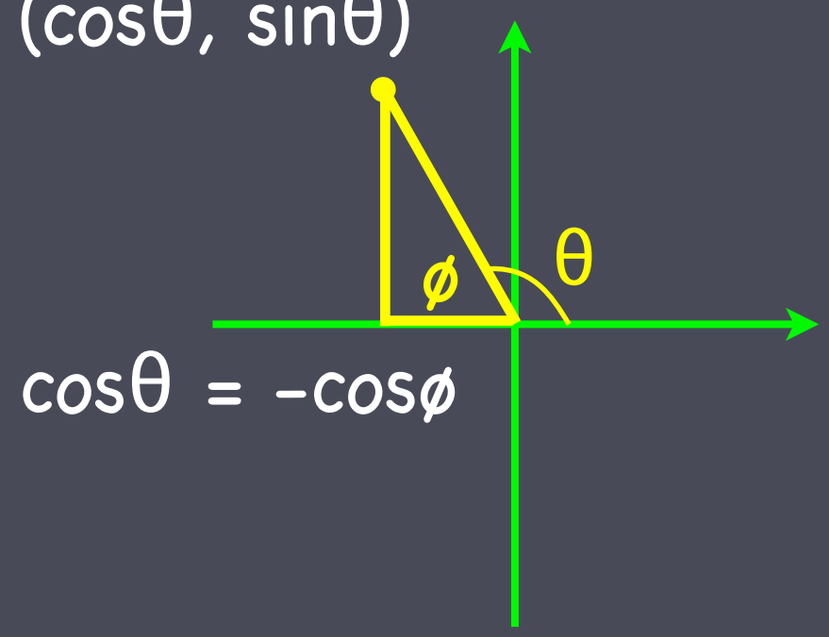

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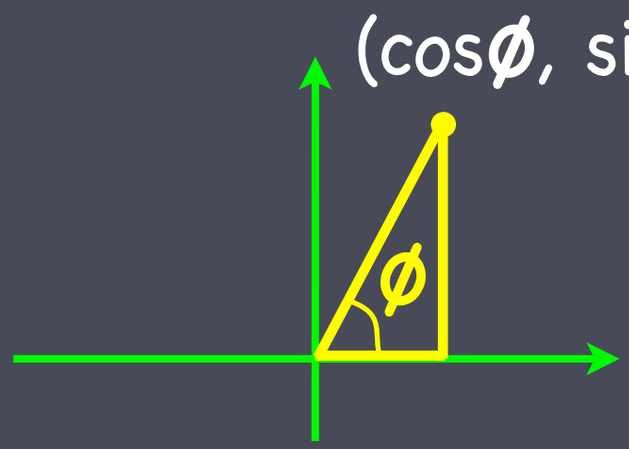

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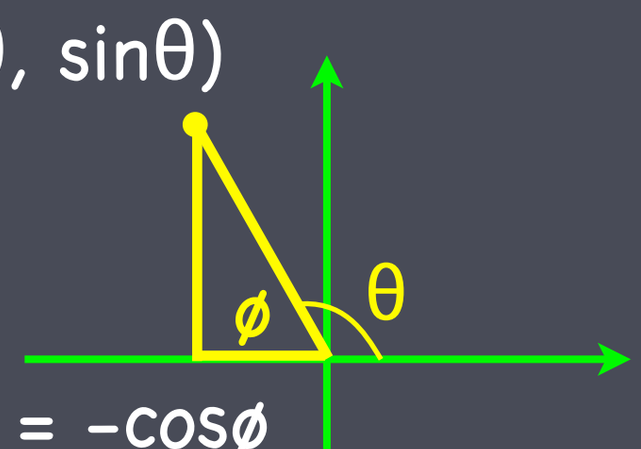
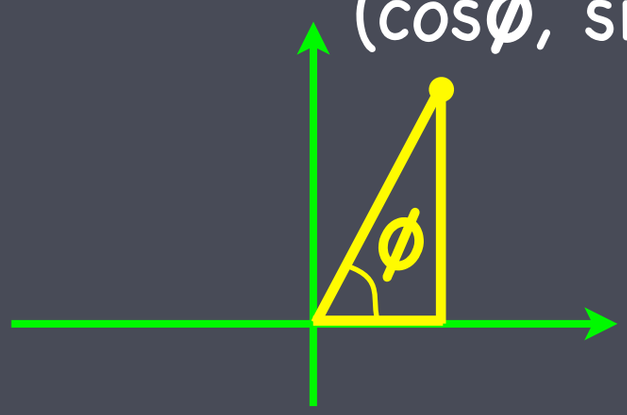


cosθ = −cosø

sinθ = sinø

Trig review



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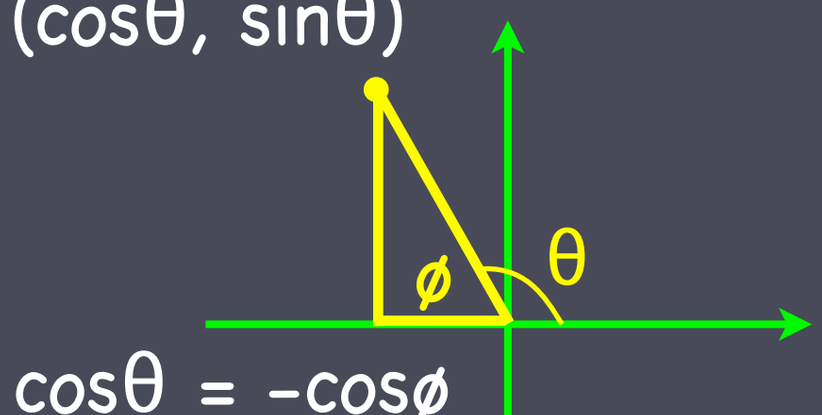

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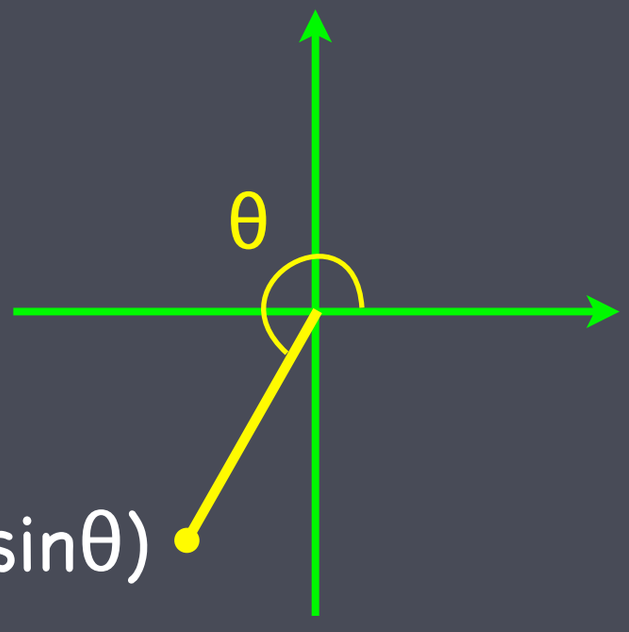

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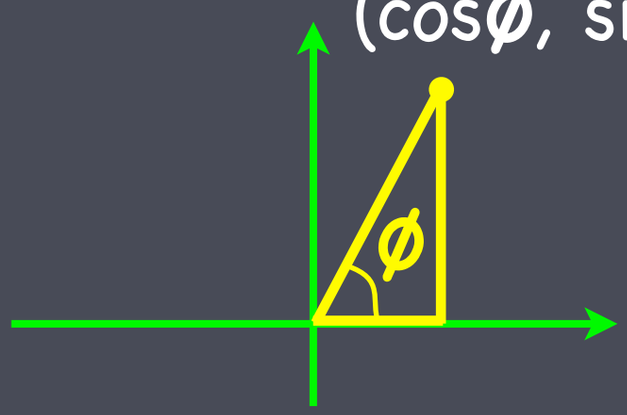

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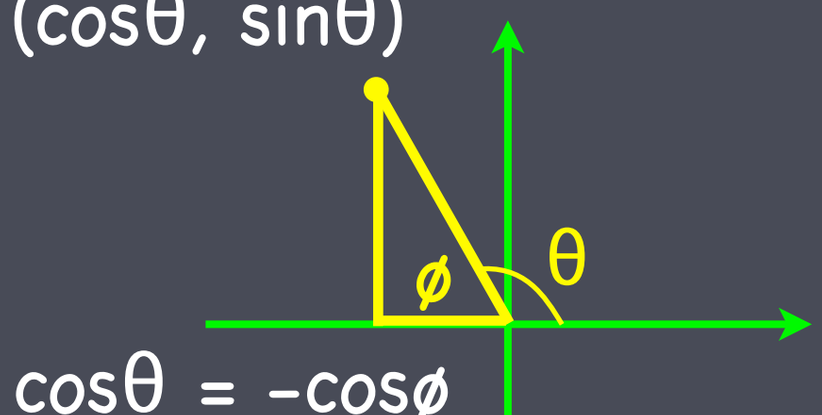

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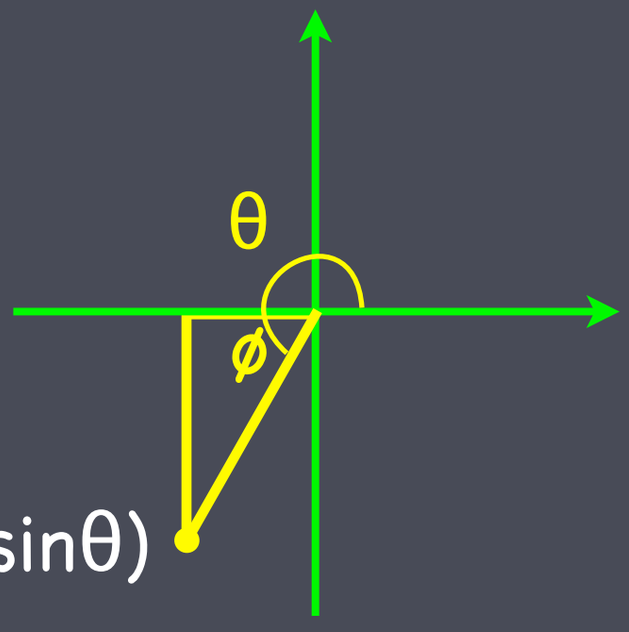

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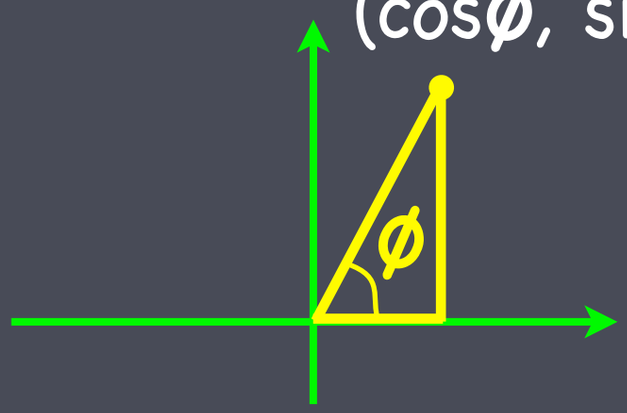

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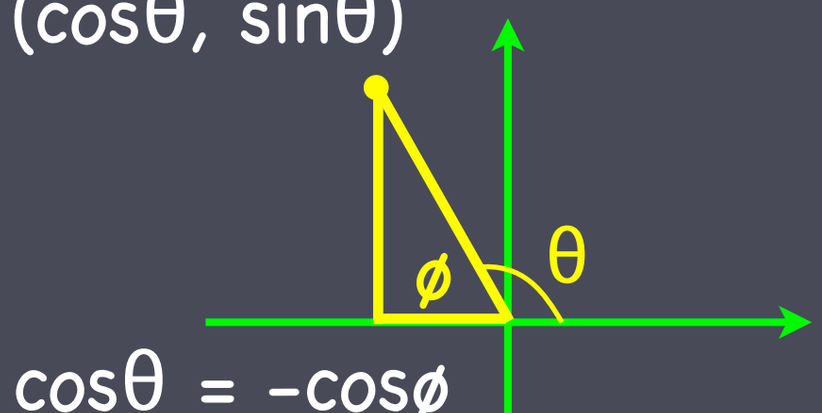

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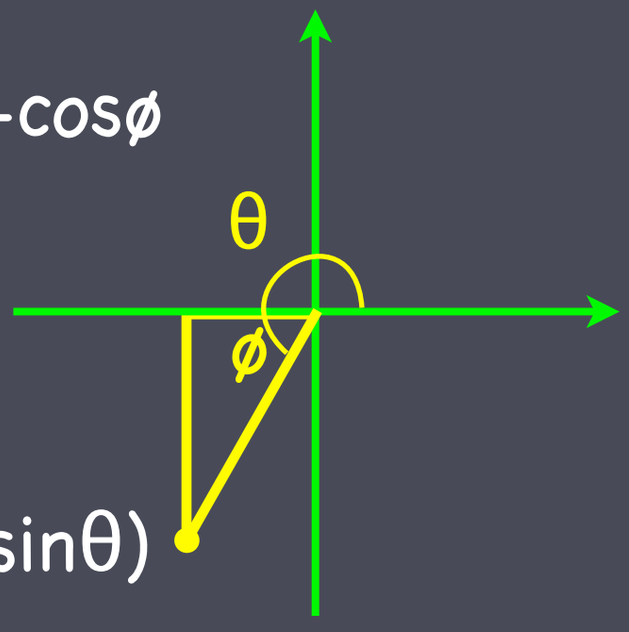

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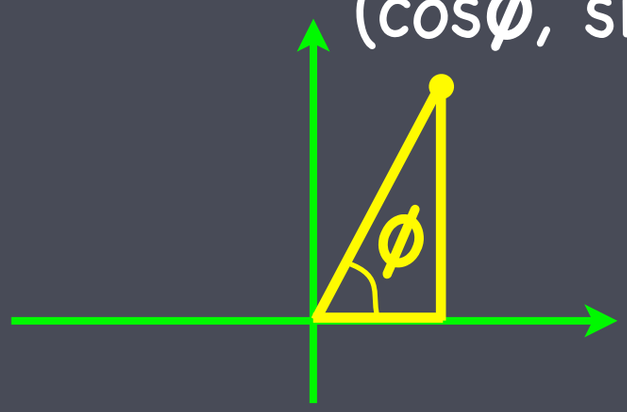

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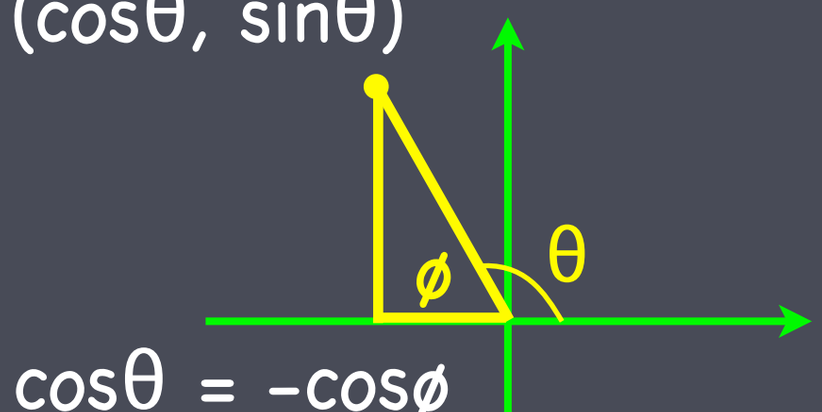

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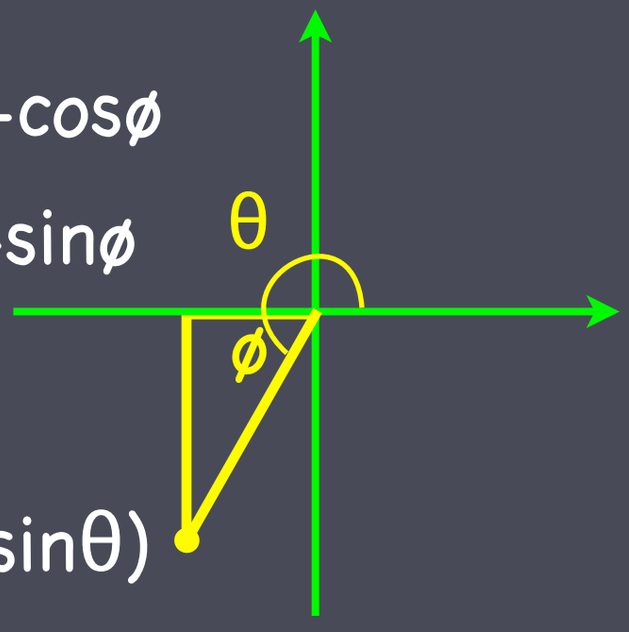

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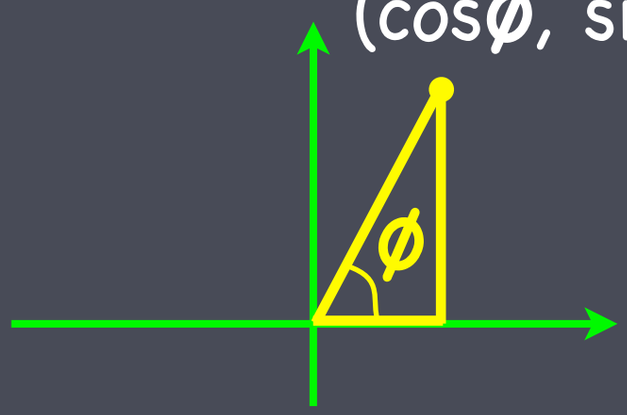

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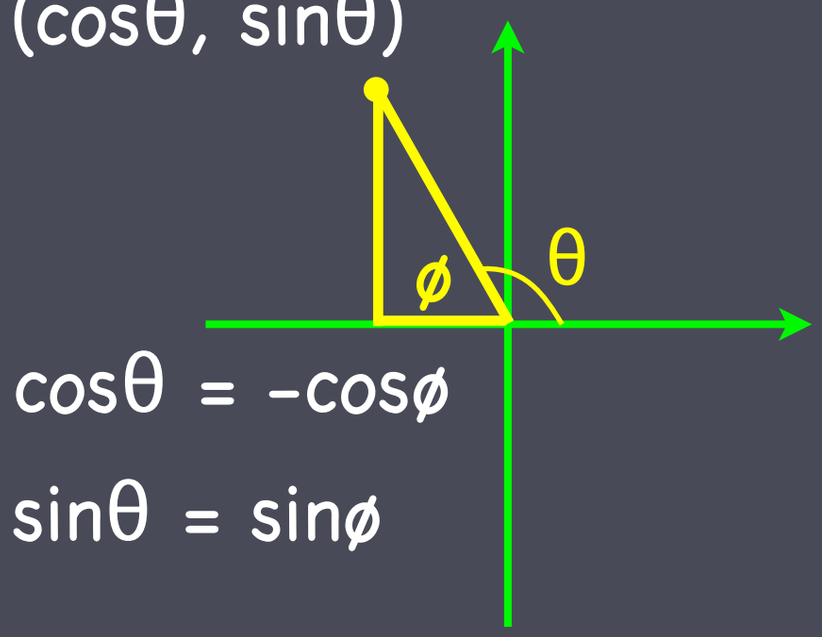

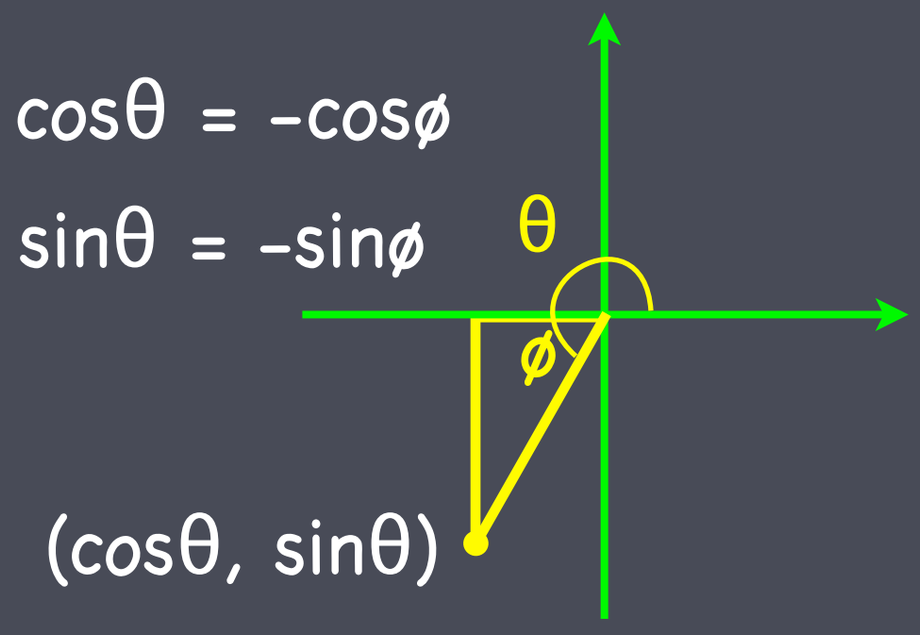

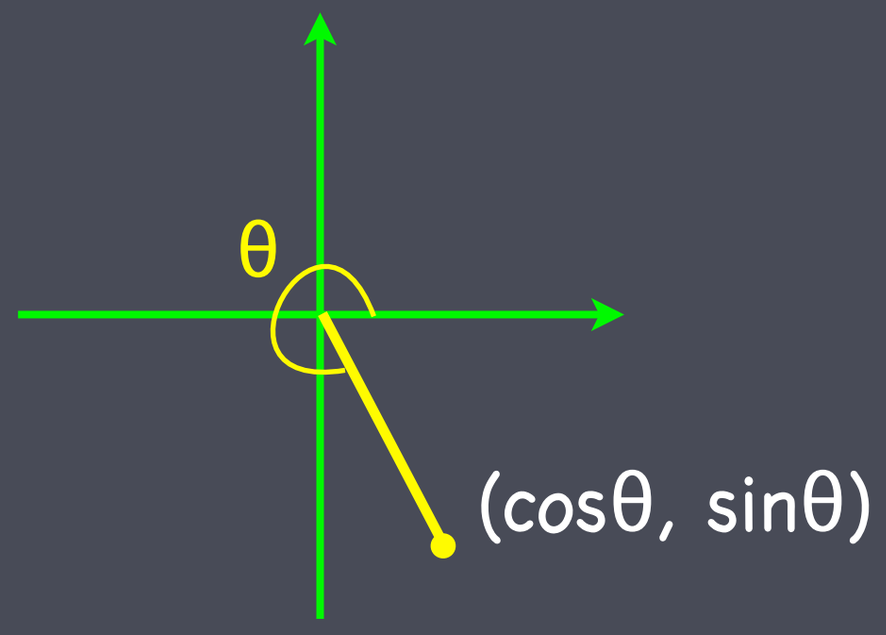

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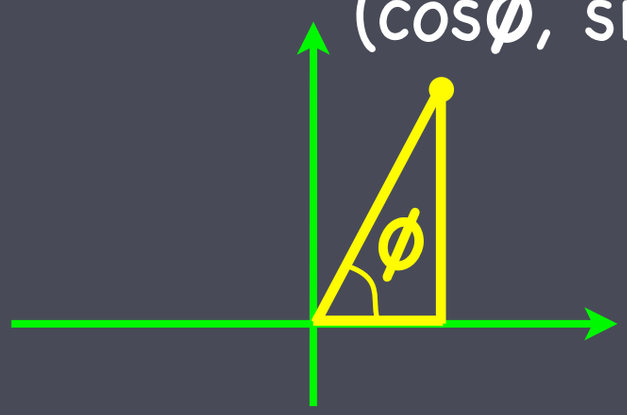

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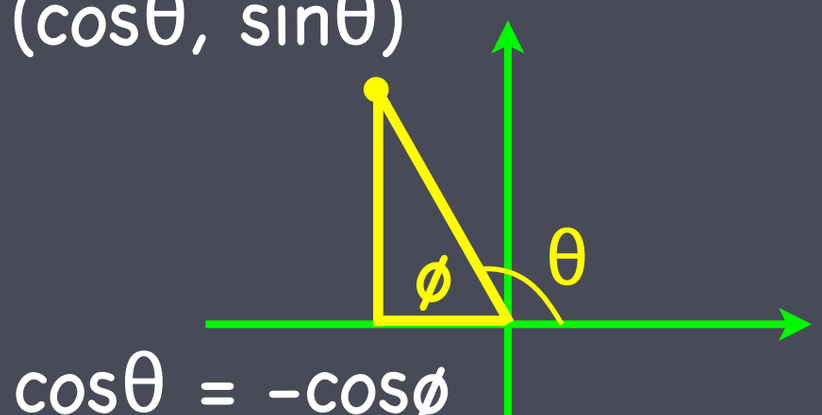

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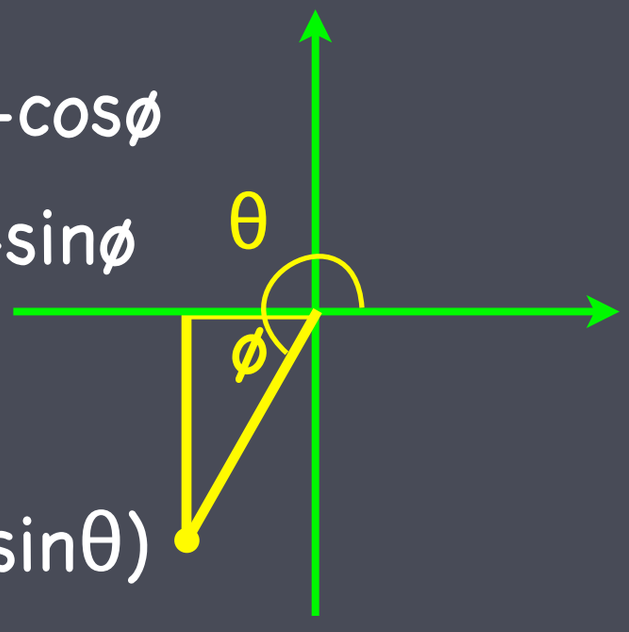

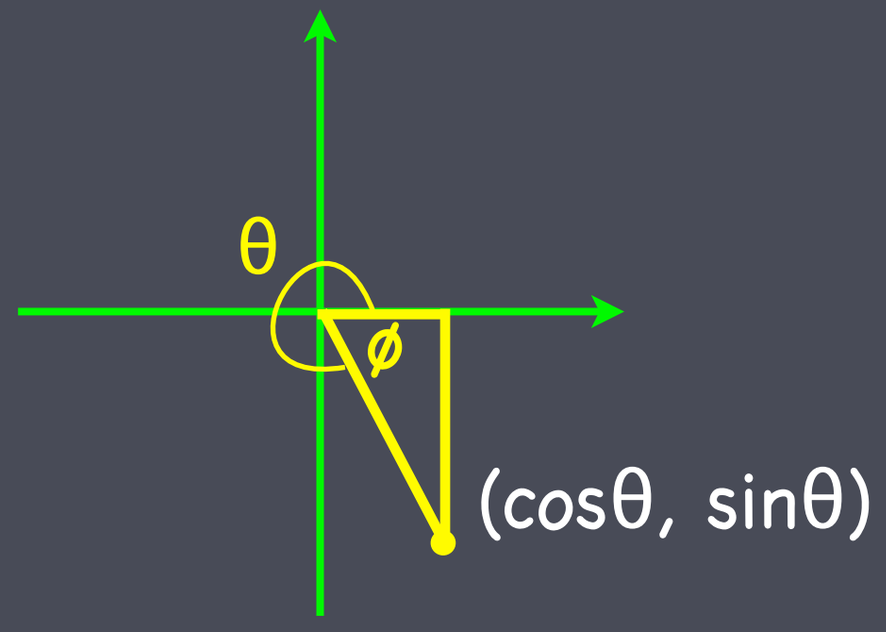

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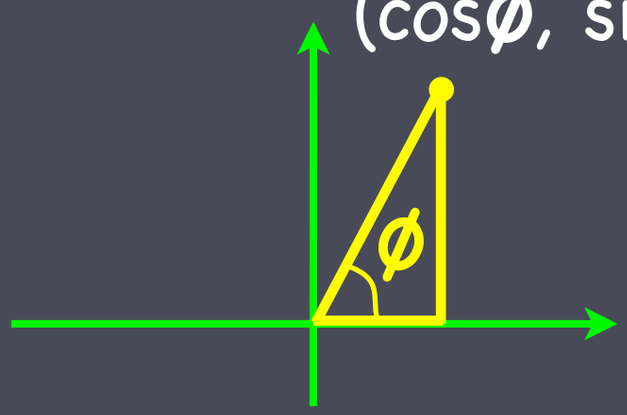

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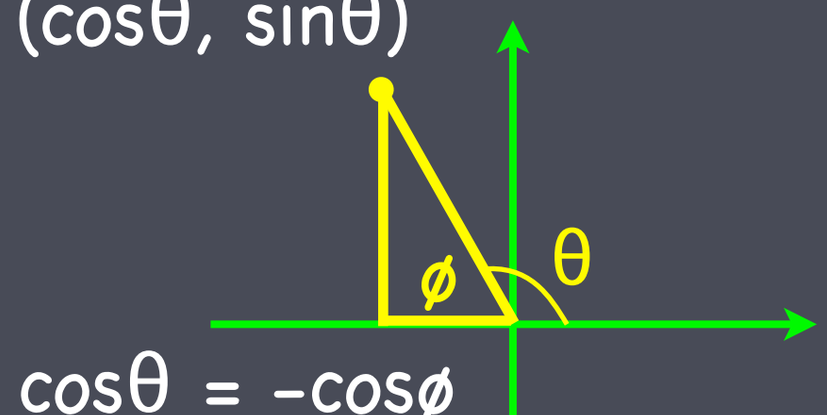

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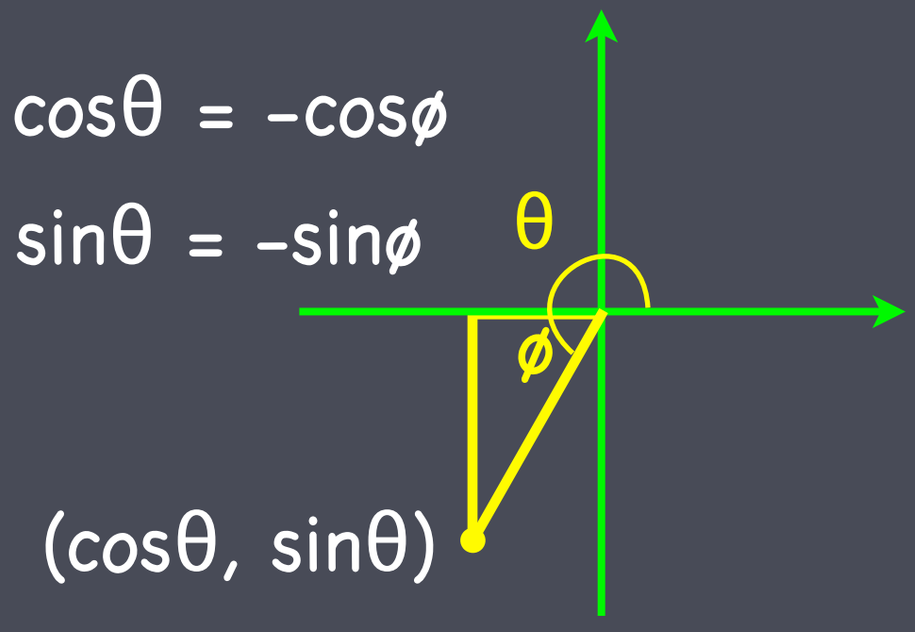

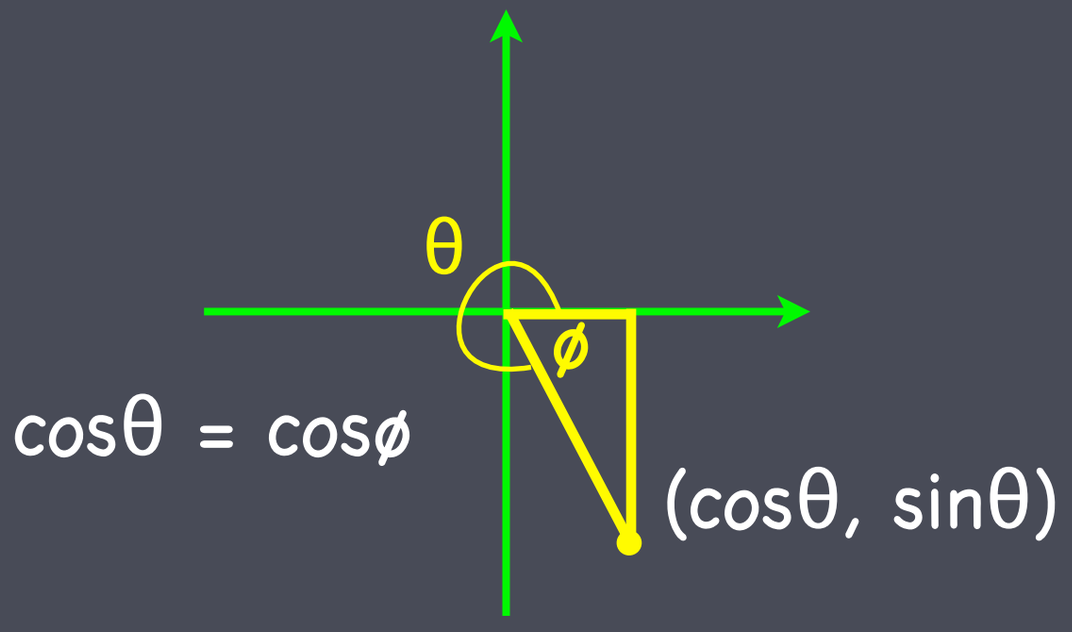

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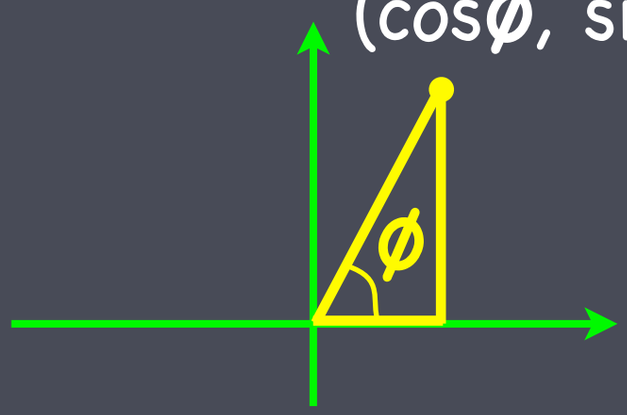

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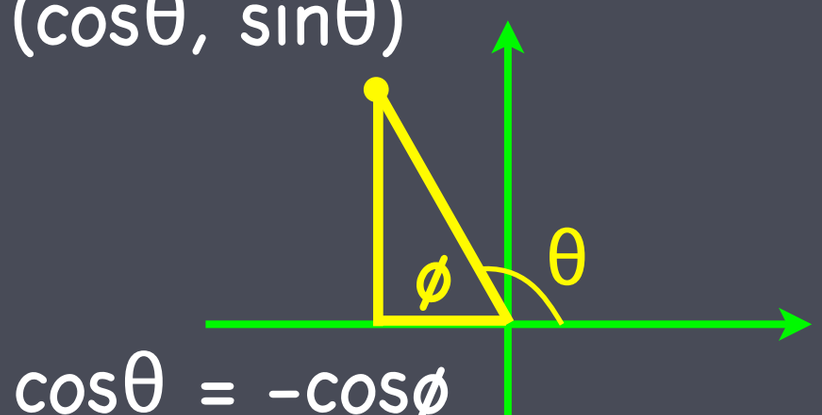

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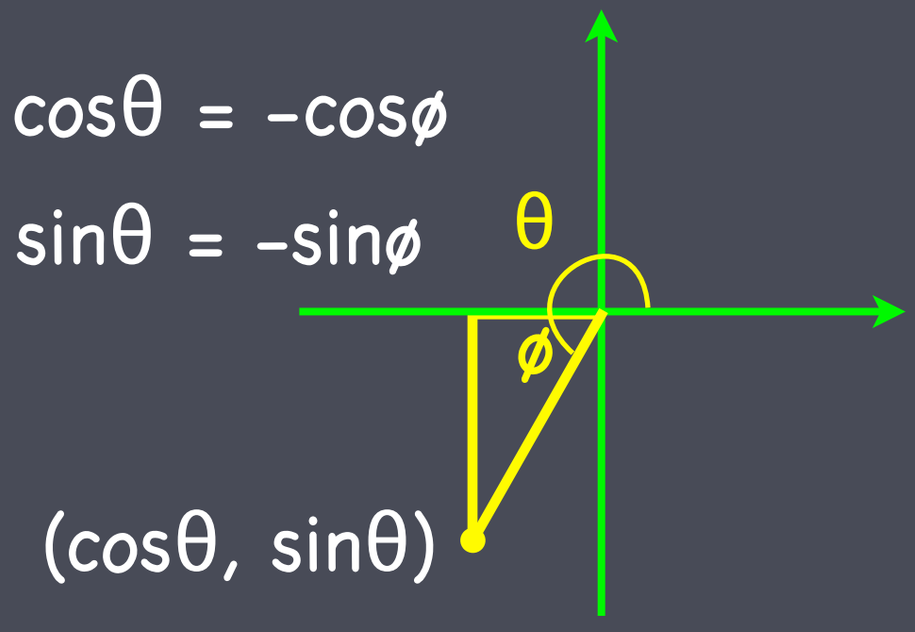

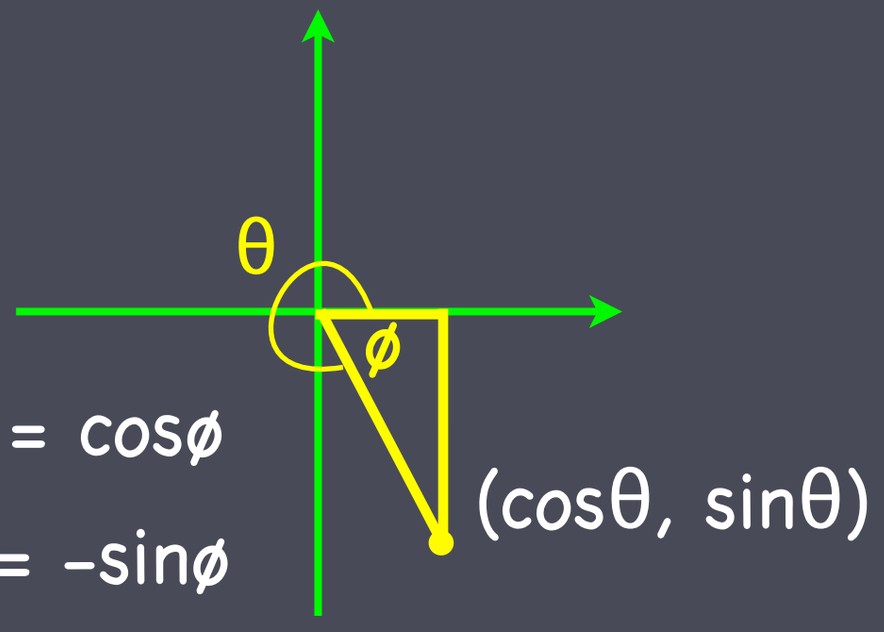

Trig review

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  - $\csc\theta = 1 / \sin\theta$
  - $\sec\theta = 1 / \cos\theta$
  - $\cot\theta = 1 / \tan\theta$

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

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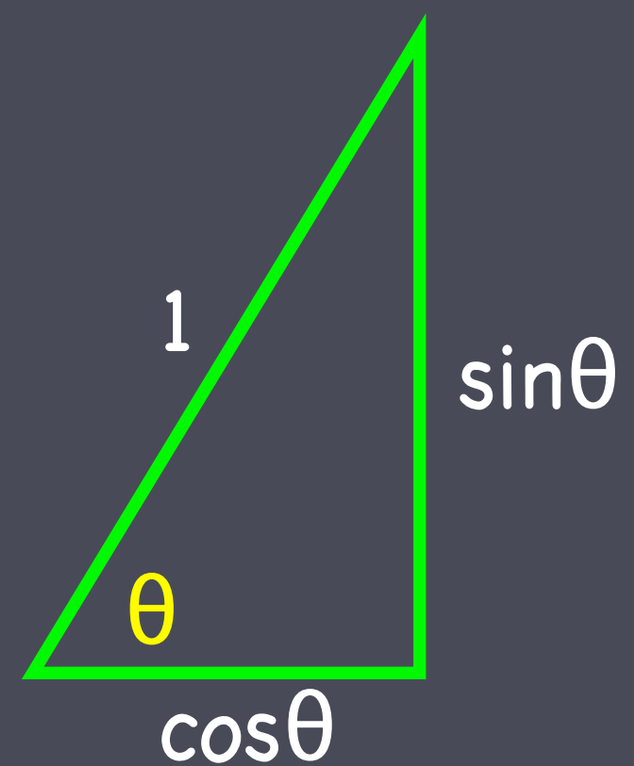

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$\sin^2\theta + \cos^2\theta = 1$

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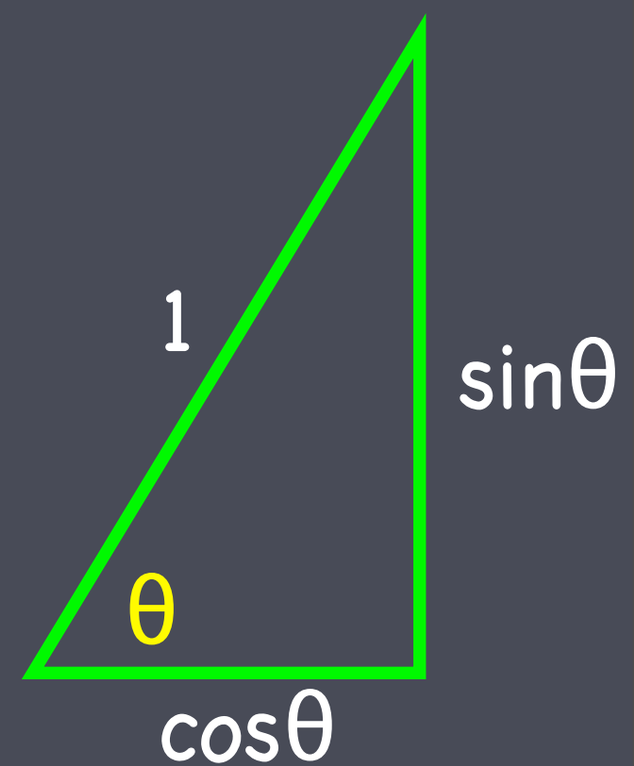

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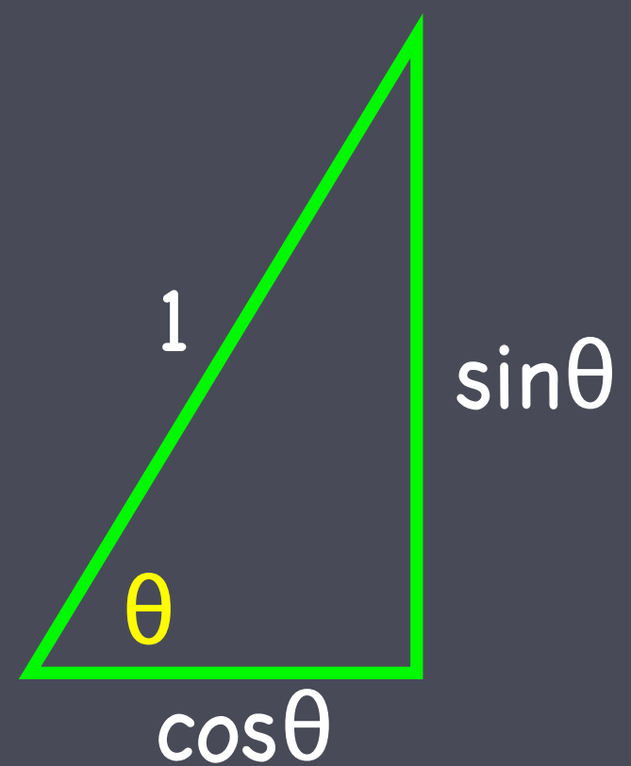

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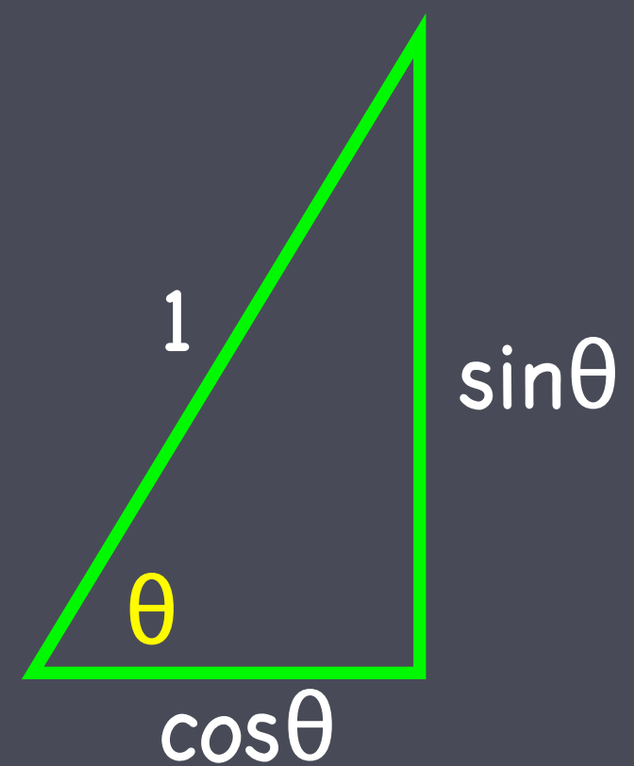

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(C) $\sin(2\theta) = 2\sin\theta\cos\theta$ <-- Use sin(A+B) (watch today's 2nd video)

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

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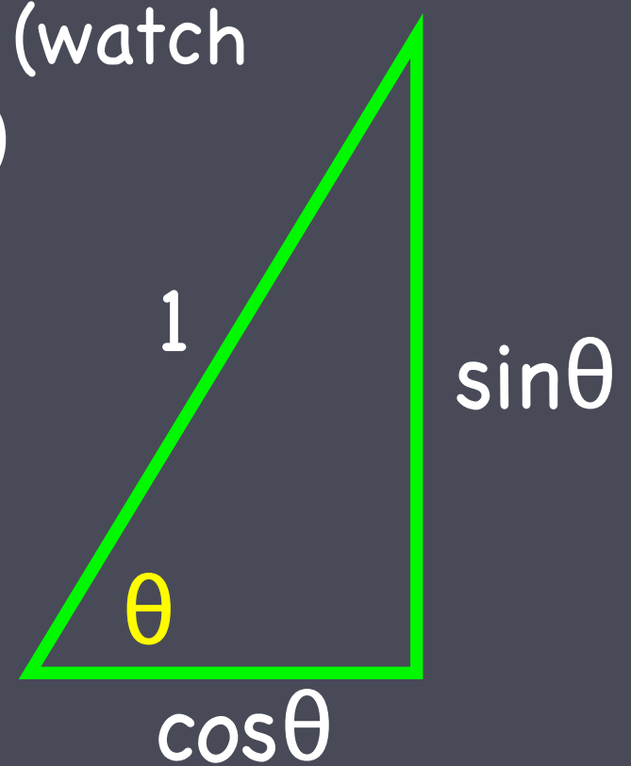

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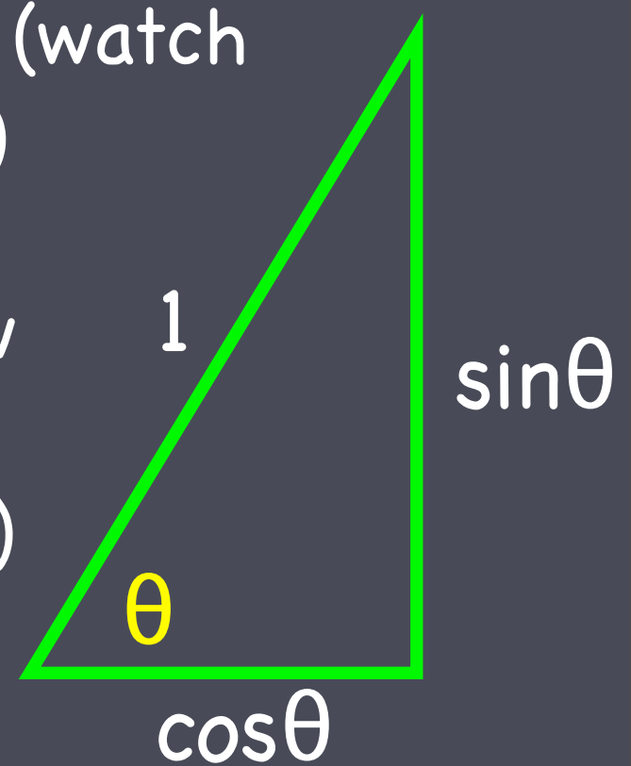
Know graphs, how to shift or use sin(A+B), cos(A+B)



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

Trig review

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

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

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

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

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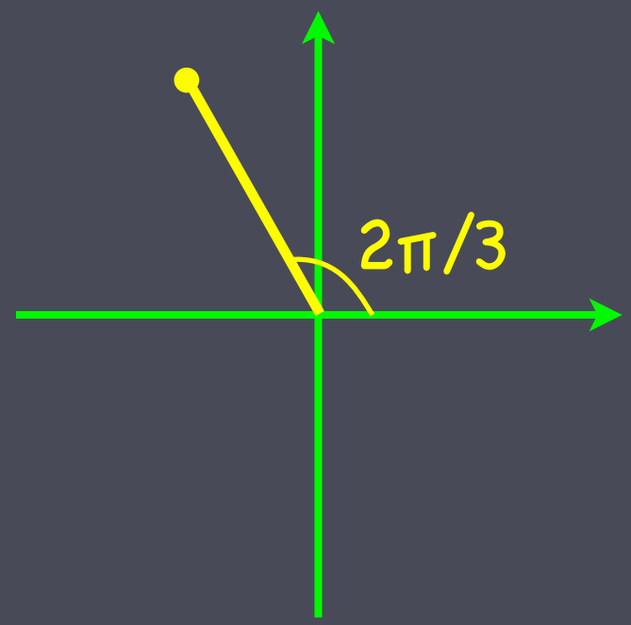

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(D) $-\frac{1}{2}$

Trig review

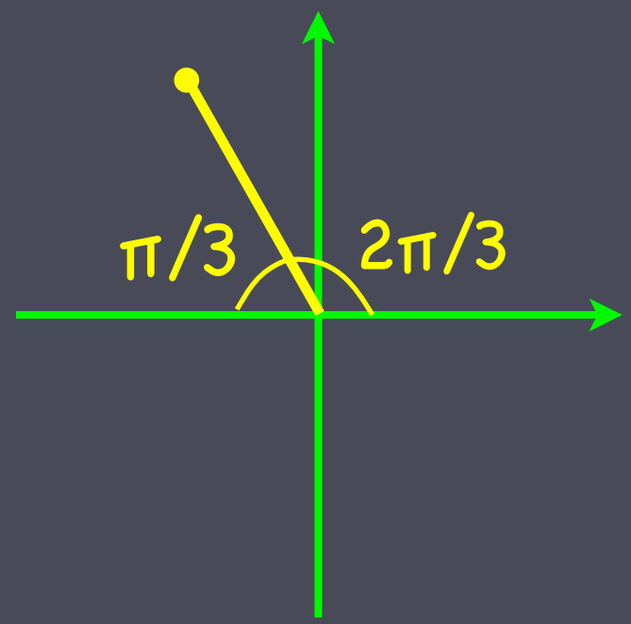
$\cos(2\pi/3) =$

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

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

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

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



Trig review

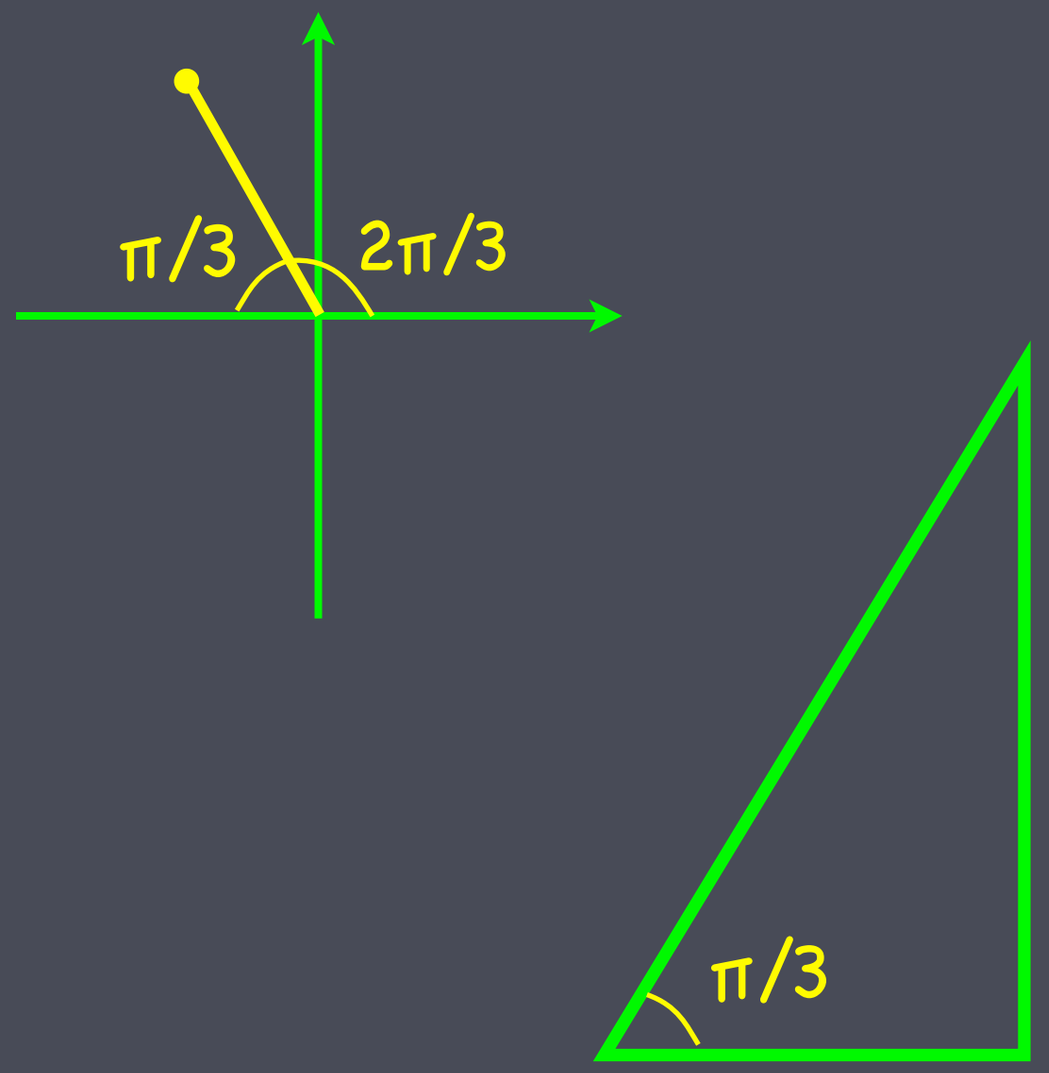
$\cos(2\pi/3) =$

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

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

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

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



Trig review

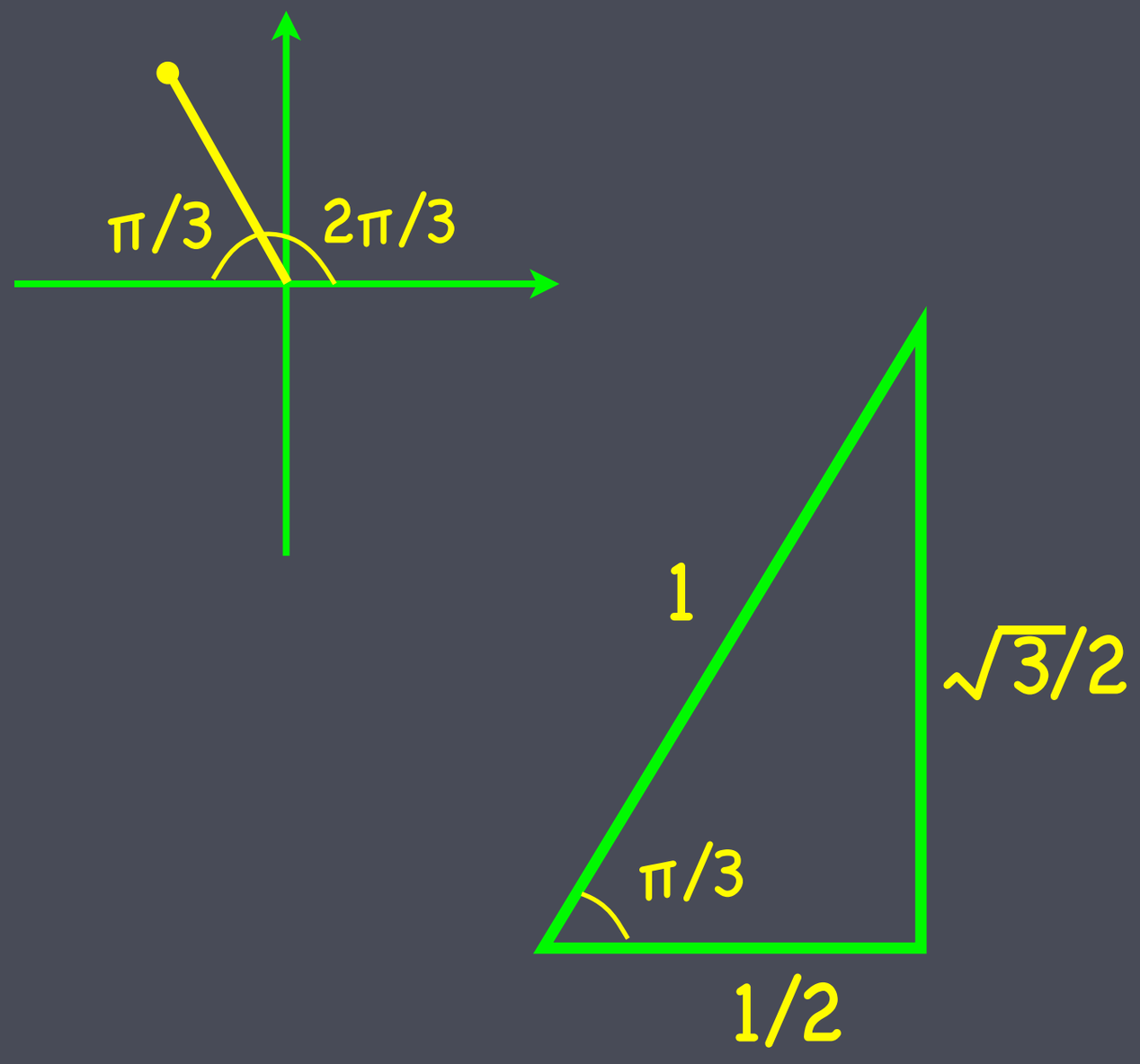
cos(2π/3) =

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

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

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

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



Trig review

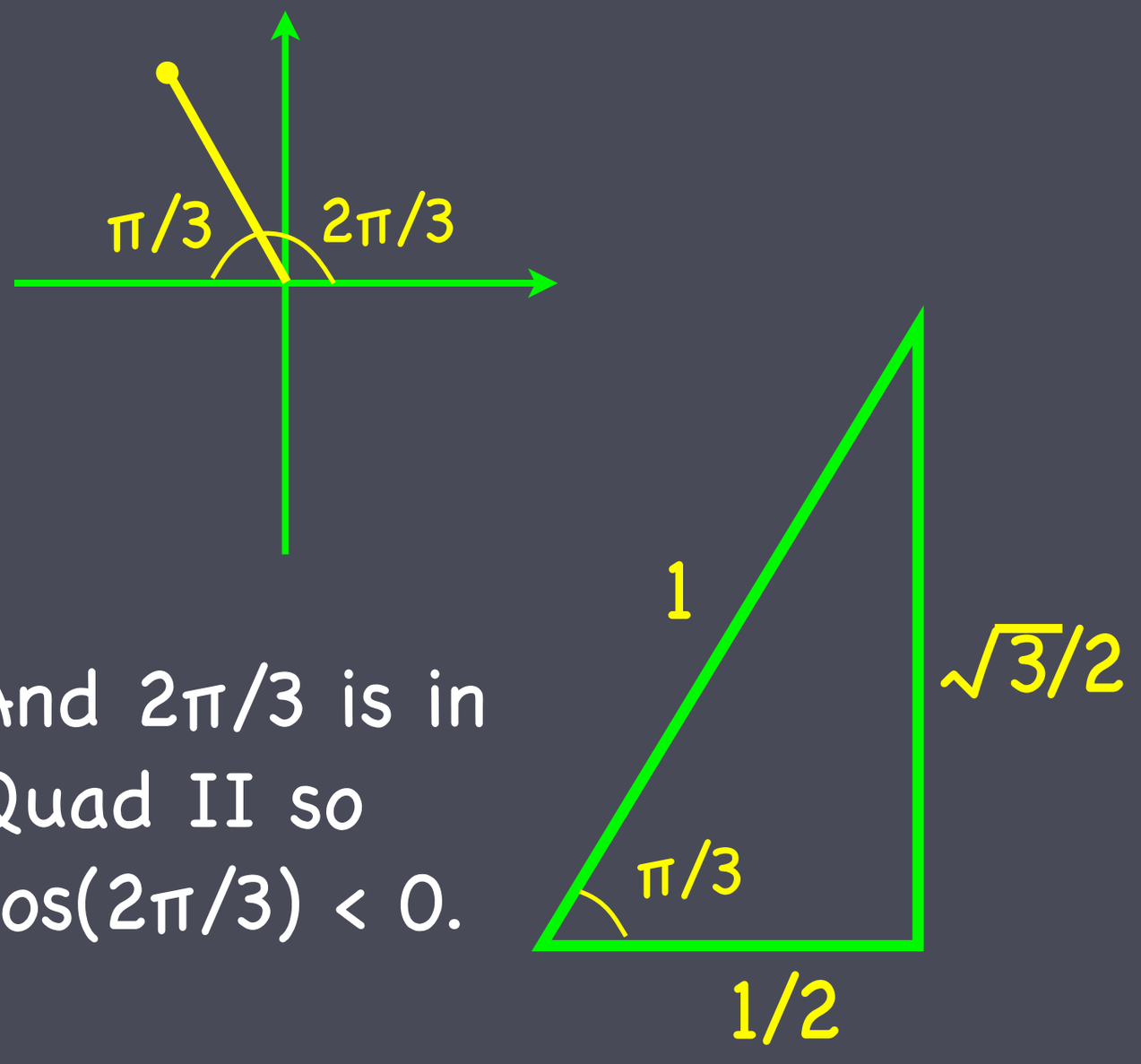
cos(2π/3) =

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

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

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

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



And 2π/3 is in Quad II so cos(2π/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) $\dfrac{1}{\sqrt{2}}$

(B) 1

(C) $\sqrt{2}$

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

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) = π/4

(D) arcsin(1/2) = π/3

(E) sin(3π/2) = −1

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

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) = π/4

(D) arcsin(1/2) = π/3

(E) sin(3π/2) = -1