

Mathematics 10D

7.4 The Primary Trigonometric Ratios

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SOH CAH TOA

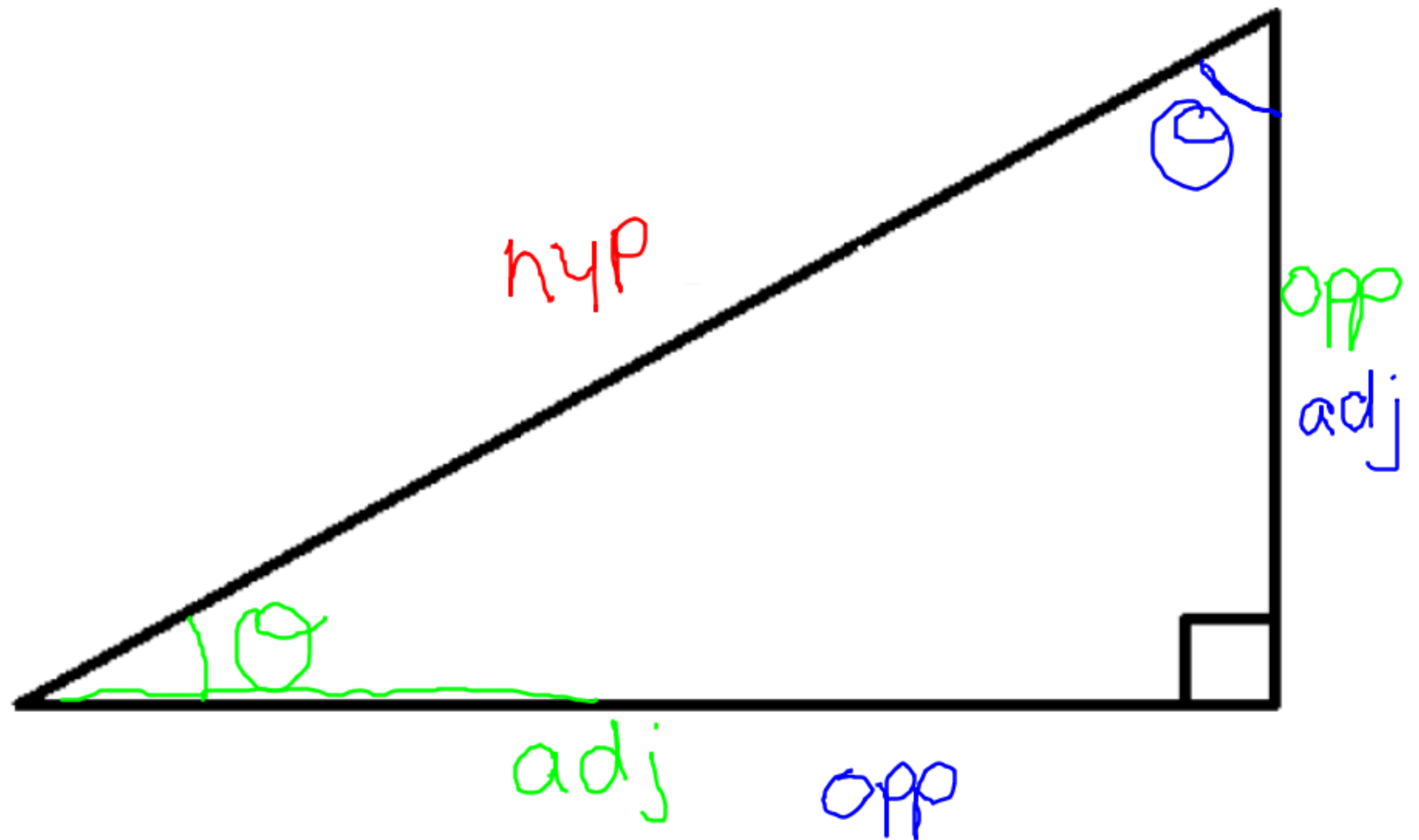
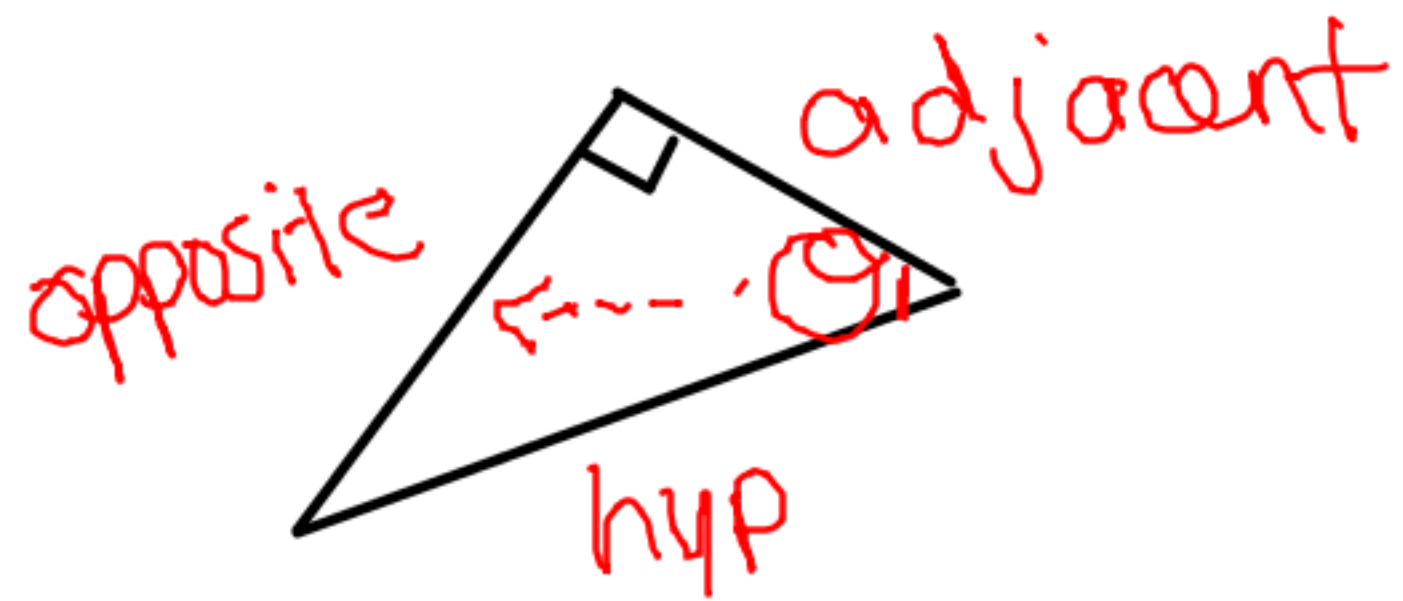
$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

* Know

SOH CAH TOA



SOH: $\sin \theta = \frac{\text{opp}}{\text{hyp}}$
 $\sin \theta = \frac{\frac{\sqrt{3}}{2}}{1}$

$\rightarrow \cancel{\sin^{-1}(\sin \theta)} = \sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$
 $\theta = \sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$
 $\theta = 60^\circ$

CAH: $\cos \theta = \frac{\text{adj}}{\text{hyp}}$
 $\cos \theta = \frac{1}{2}$

$\cancel{\cos^{-1}(\cos \theta)} = \cos^{-1}\left(\frac{1}{2}\right)$

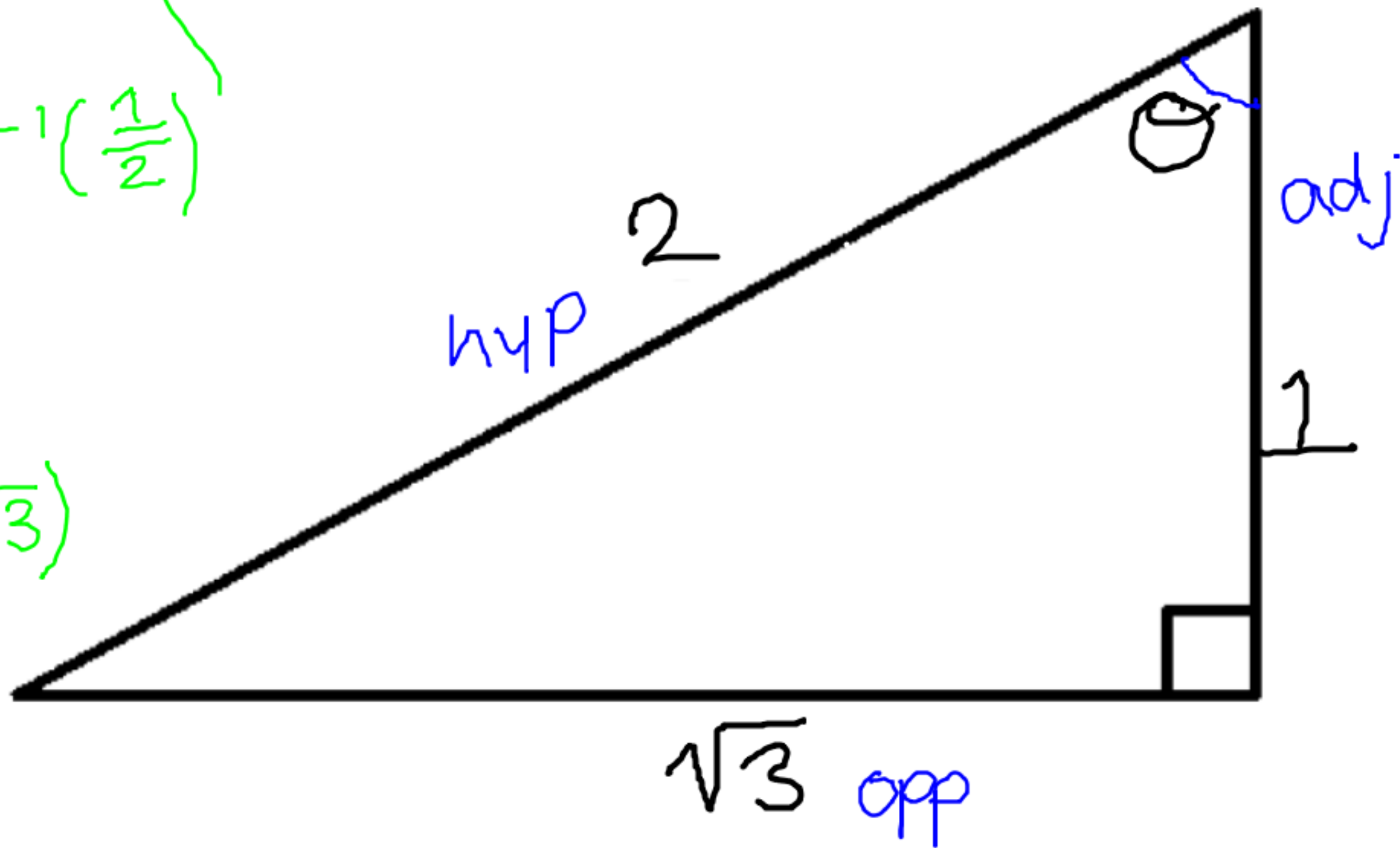
$\theta = \cos^{-1}\left(\frac{1}{2}\right)$
 $\theta = 60^\circ$

$-1 \Rightarrow \text{inverse}$

TOA: $\tan \theta = \frac{\text{opp}}{\text{adj}}$
 $\tan \theta = \frac{\sqrt{3}}{1}$

$\cancel{\tan^{-1}(\tan \theta)} = \tan^{-1}(\sqrt{3})$
 $\theta = \tan^{-1}(\sqrt{3})$

$\theta = 60^\circ$



CA+1: $\cos \theta = \frac{\text{adj}}{\text{hyp}}$

$$5(\cos(40^\circ)) = \frac{x}{5}$$

*rearrange

$$5(\cos(40^\circ)) = x$$
$$3.83 \approx x$$

~~SOTH~~ CAH
~~FOA~~ ✓

