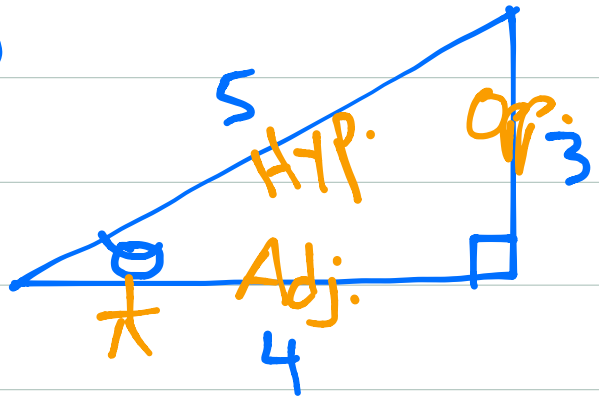
7.2 NOTES-- DAY 1

"The 6 Trigonometric Functions"

SOH - CAH - TOA

Sine = $\frac{Opp}{Hyp}$ Cosine = $\frac{Adj}{Hyp.}$ Tangent = $\frac{Opp}{Adj.}$

(1)



$a^2 + b^2 = c^2$

$3^2 + x^2 = 5^2$

Ratio of 2 sides

Sine $\theta = \frac{3}{5}$ → Csc $\theta = \frac{5}{3}$

Sin

Cosine $\theta = \frac{4}{5}$ → Sec $\theta = \frac{5}{4}$

Cos

tangent $\theta = \frac{3}{4}$ $\cot\theta = \frac{4}{3}$

tan

cosecant = $\frac{\text{Hyp}}{\text{Opp.}} = \frac{1}{\sin\theta}$

"csc"

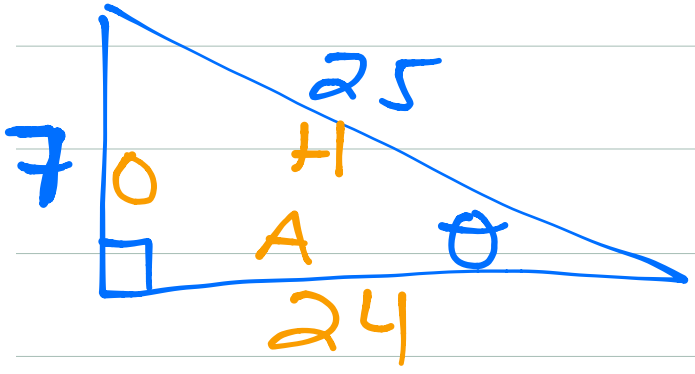
secant = $\frac{\text{Hyp.}}{\text{Adj.}} = \frac{1}{\cos\theta}$

"sec"

cotangent = $\frac{\text{Adj.}}{\text{Opp.}} = \frac{1}{\tan\theta}$

"cot"

(1) Find all 6 Trig Functions



$\sin\theta = \frac{7}{25}$

$\cos\theta = \frac{24}{25}$

$\tan\theta = \frac{7}{24}$

$7^2 + x^2 = 25^2$

3, 4, 5
5, 12, 13
6, 8, 10
7, 24, 25

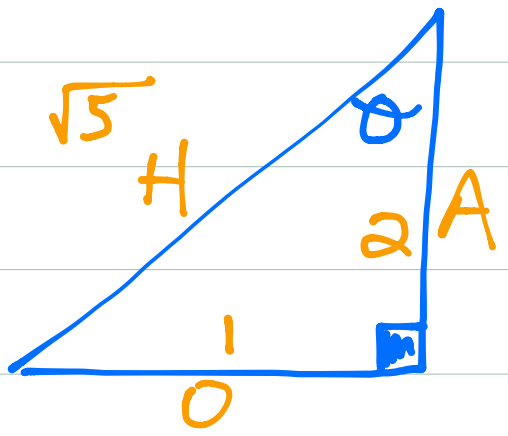
$\csc\theta = \frac{25}{7}$

$\sec\theta = \frac{25}{24}$

$\cot\theta = \frac{24}{7}$

Find all 6 Trig Functions

$\tan\theta = \frac{1}{2}$.



$1^2 + 2^2 = x^2$
$1 + 4 = x^2$
$5 = x^2$

$\sin\theta = \frac{1}{\sqrt{5}} \rightarrow \frac{\sqrt{5}}{5}$

$\cos\theta = \frac{2}{\sqrt{5}} \rightarrow \frac{2\sqrt{5}}{5}$

$\tan\theta = \frac{1}{2}$

$\csc\theta = \sqrt{5}$

$\sec\theta = \frac{\sqrt{5}}{2}$

$\cot\theta = 2$

$\sqrt{5} = x$