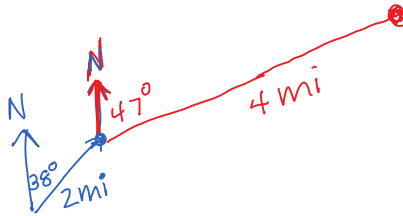


Wednesday, January 11,  
2017

- ✓ Homework Check
- ✓ 4.2 - Right Triangle Trig!!!
- ✓ Trig Review - on own during Junior Planning Conferences

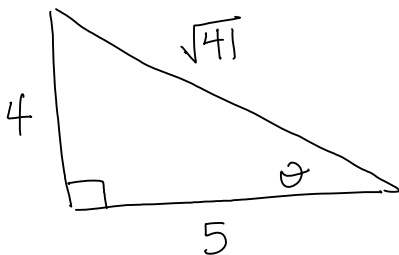
(49)



7 radians  $\rightarrow$  degrees

$$7 \cdot \frac{180^\circ}{\pi} = 401.07^\circ$$

## 4.2 Right Triangle Trig!



$$4^2 + 5^2 = c^2$$

$$c = \sqrt{41}$$

$$\sin \theta = \frac{4}{\sqrt{41}}$$

$$\cos \theta = \frac{5}{\sqrt{41}}$$

$$\tan \theta = \frac{4}{5}$$

$$\csc \theta = \frac{\sqrt{41}}{4}$$

$$\sec \theta = \frac{\sqrt{41}}{5}$$

$$\cot \theta = \frac{5}{4}$$

Example (1) If  $\cos \theta = \frac{3}{7}$ , find  $\cot \theta$ .



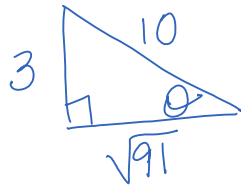
$$x^2 + 9 = 49$$

$$x = \sqrt{40}$$

$$\cot \theta = \frac{3}{\sqrt{40}}$$

The Romans didn't  
find algebra very  
challenging, because  
X was always  
10.

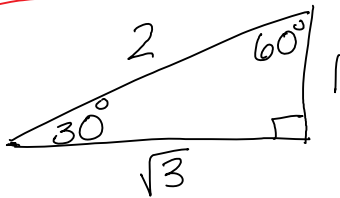
② If  $\csc\theta = \frac{10}{3}$ , find  $\tan\theta$ .



$$\tan\theta = \frac{3}{\sqrt{91}}$$

## Special Triangles

$$30^\circ = \frac{\pi}{6}$$

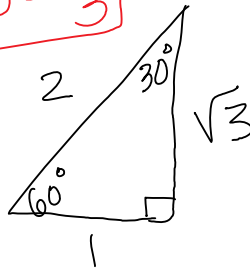


$$\sin 30^\circ = \frac{1}{2}$$

$$\cos 30^\circ = \frac{\sqrt{3}}{2}$$

$$\tan 30^\circ = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$60^\circ = \frac{\pi}{3}$$

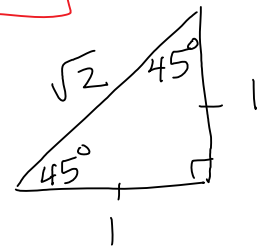


$$\sin 60^\circ = \frac{\sqrt{3}}{2}$$

$$\cos 60^\circ = \frac{1}{2}$$

$$\tan 60^\circ = \sqrt{3}$$

$$45^\circ = \frac{\pi}{4}$$



$$\sin 45^\circ = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\cos 45^\circ = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\tan 45^\circ = 1$$