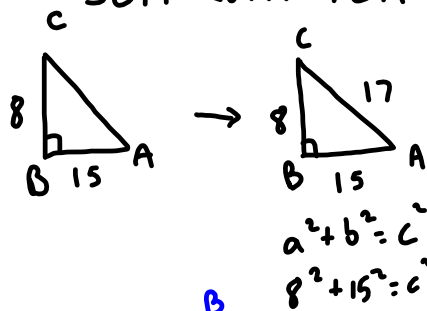


5.2 & 5.4

5.2 - Trig ratios in Rt. Δ 's

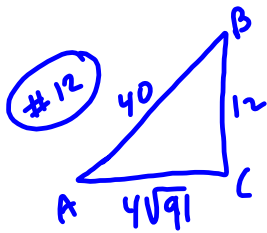
SOH CAH TOA



$$\sin A = \frac{8}{17}$$

$$\cos A = \frac{15}{17}$$

$$\tan A = \frac{8}{15}$$



$$a^2 + 12^2 = 40^2$$

$$a^2 = 40^2 - 12^2$$

$$\sqrt{a^2} = \sqrt{1456}$$

$$a = \sqrt{16 \cdot 91}$$

$$= 4\sqrt{91}$$

$$\sin A = \frac{12}{40}$$

$$\sin A = \frac{3}{10}$$

$$\cos A = \frac{4\sqrt{91}}{40}$$

$$\cos A = \frac{\sqrt{91}}{10}$$

$$\tan A = \frac{12}{4\sqrt{91}} \cdot \frac{\sqrt{91}}{\sqrt{91}}$$

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

Reciprocal Trig Ratios

cosecant $\theta \rightarrow \csc \theta = \frac{1}{\sin \theta}$ or $\frac{\text{hyp}}{\text{opp}}$.

secant $\theta \rightarrow \sec \theta = \frac{1}{\cos \theta}$ or $\frac{\text{hyp}}{\text{adj}}$.

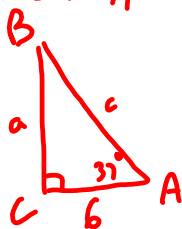
cotangent $\theta \rightarrow \cot \theta = \frac{1}{\tan \theta}$ or $\frac{\text{adj}}{\text{opp}}$.

ex $\sec \theta = \frac{6}{5}$, so $\cos \theta = \frac{5}{6}$ opp.

$\sin \theta = .8$, so $\csc \theta = \frac{1}{.8} = 1.25$

5.4 Applying Trig Fn.'s

#11 IF $A = 37^\circ$, $b = 6$, find a



$$\frac{\tan 37^\circ}{1} = \frac{a}{6}$$

$$6 \tan 37^\circ = a$$

$a \approx 4.5$