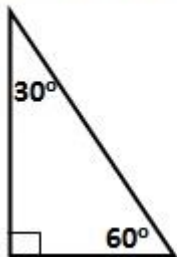


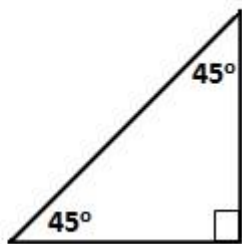
"This Trig is Getting Tricky" - Day 3

Remember for previous notes:

30-60-90 Triangle



45-45-90 Triangle



Determine the exact trig ratio for:

- | | |
|---|---------------------------------------|
| (a) $\sin 30^\circ \sin 45^\circ \sin 60^\circ$ | (d) $2(\cos 30^\circ)(\sin 30^\circ)$ |
| (b) $\cos 30^\circ \sin 30^\circ + \sin 60^\circ \cos 60^\circ$ | (e) $5 \tan 60^\circ / \cos 30^\circ$ |
| (c) $\cos 30^\circ \sin 60^\circ + \sin 30^\circ \cos 60^\circ$ | |

Determining an Exact Trig Ratio Given One of the Other Ratios

We can also determine all the exact trig ratios for an angle in standard position if we are given one of the six ratios and given the location of the terminal arm:

1. Determine the exact trig ratio for $\tan \theta$, given that $\cos \theta = \frac{-2}{3}$ and the terminal arm is in quad III.
Determine the related acute angle β , and the principal angle θ .
2. Determine the exact trig ratio for $\sin \theta$, given that $\tan \theta = \frac{-4}{5}$ and the terminal arm is in quad IV.
Determine the related acute angle β , and the principal angle θ .
3. Determine the exact trig ratio for $\sec \theta$, given that $\sin \theta = \frac{-7}{9}$ and the terminal arm is in quad III.
Determine the related acute angle β , and the principal angle θ .
4. Determine the exact trig ratio for $\cot \theta$, given that $\csc \theta = \frac{5}{2}$ and the terminal arm is in quad II.
Determine the related acute angle β , and the principal angle θ .
5. Determine the exact trig ratio for $\cos \theta$, given that $\cot \theta = \frac{-5}{8}$ and the terminal arm is in quad II.
Determine the related acute angle β , and the principal angle θ .