from 7.2 (part 1):

$$\cos(x \pm y) = \cos x \cdot \cos y \mp \sin x \cdot \sin y$$

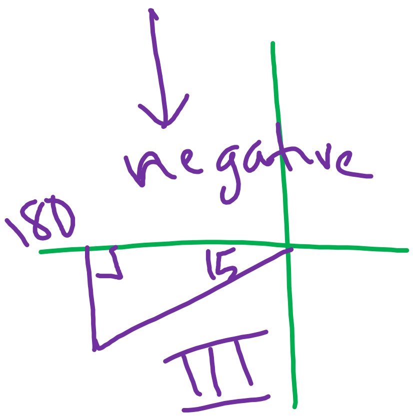
6. cos 195° $= \cos 15^\circ$

$= \cos(45^\circ - 30^\circ)$

$= \cos 45^\circ \cdot \cos 30^\circ + \sin 45^\circ \sin 30^\circ$

$= \left(\frac{\sqrt{2}}{2}\right)\left(\frac{\sqrt{3}}{2}\right) + \left(\frac{\sqrt{2}}{2}\right)\left(\frac{1}{2}\right)$

$= \frac{\sqrt{6}}{4} + \frac{\sqrt{2}}{4}$



$$\begin{array}{r} 195 \\ -180 \\ \hline 15 \end{array}$$

$\cos 15^\circ = -\left(\frac{\sqrt{6}+\sqrt{2}}{4}\right)$

$\cos 195^\circ = \boxed{\frac{-\sqrt{6}-\sqrt{2}}{4}}$

$\theta =$	30°	45°	60°
sin θ	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
cos θ	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
tan θ	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$

from 7.2 (part 1):

20. $\underset{x}{\cos\frac{13\pi}{15}}\;\underset{y}{\cos\left(-\frac{\pi}{5}\right)} - \underset{x}{\sin\frac{13\pi}{15}}\;\underset{y}{\sin\left(-\frac{\pi}{5}\right)}$

$$= \cos\left(\frac{13\pi}{15} + -\frac{\pi}{5}\cdot\frac{3}{3}\right)$$

$$= \cos\left(\frac{13\pi}{15} + -\frac{3\pi}{15}\right)$$

$$= \cos\frac{10\pi}{15}$$

$$= \cos\frac{2\pi}{3} = 120^\circ$$

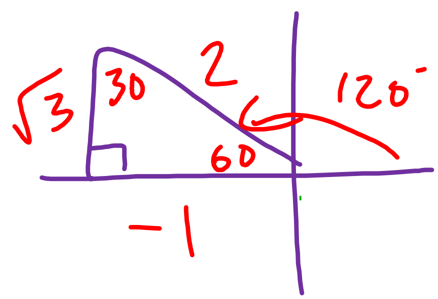
unit circle

$$= -\frac{1}{2}$$

$$\sin(x \pm y) = \sin x \cdot \cos y \pm \cos x \cdot \sin y$$

$$\cos(x \pm y) = \cos x \cdot \cos y \mp \sin x \cdot \sin y$$

$\theta=$	30°	45°	60°
$\sin\theta$	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
$\cos\theta$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
$\tan\theta$	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$



from 7.2 (part 1): Prove the identity

31. $\sin(\boxed{\frac{\pi}{2}}-\boxed{x}) = \sin(\frac{\pi}{2}+x)$

HINT: REWRITE **BOTH** SIDES!!

$\sin\frac{\pi}{2}\cos x - \cos\frac{\pi}{2}\sin x = \sin\frac{\pi}{2}\cos x + (\cos\frac{\pi}{2})\sin x$

$(\quad)\cos x - (\quad)\sin x = (\quad)\cos x + (\quad)\sin x$

$$\boxed{\quad = \quad}$$

$$\sin(x \pm y) = \sin x \cdot \cos y \pm \cos x \cdot \sin y$$