

PRE-AP ALGEBRA 2

1) Evaluate exactly.

- a) $\sin 675^\circ$
- b) $\cos(-300^\circ)$
- c) $\sin 210^\circ$
- d) $\tan(-45^\circ)$

$$(a) 675^\circ - 360^\circ = 315^\circ$$

$$\sin 675^\circ = \sin 315^\circ = -\frac{\sqrt{2}}{2}$$

$$(b) -300^\circ + 360^\circ = 60^\circ$$

$$\cos(-300^\circ) = \cos 60^\circ = \frac{1}{2}$$

$$(c) \sin 210^\circ = -\frac{1}{2}$$

$$(d) -45^\circ + 360^\circ = 315^\circ$$

$$\tan(-45^\circ) = \tan 315^\circ =$$

$$= \frac{\sin 315^\circ}{\cos 315^\circ} = \frac{-\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = -1$$

4A.5 CLASSWORK

2) Evaluate exactly.

- a) $\cos(3\pi)$
- b) $\sin\left(\frac{10\pi}{3}\right)$
- c) $\cos\left(-\frac{\pi}{6}\right)$
- d) $\tan\left(\frac{5\pi}{6}\right)$

$$(a) 3\pi - 2\pi = \pi$$

$$\cos(3\pi) = \cos(\pi) = -1$$

$$(b) \frac{10\pi}{3} - 2\pi = \frac{4\pi}{3}$$

$$\sin\left(\frac{10\pi}{3}\right) = \sin\left(\frac{4\pi}{3}\right) = -\frac{\sqrt{3}}{2}$$

$$(c) -\frac{\pi}{6} + 2\pi = \frac{11\pi}{6}$$

$$\tan\left(-\frac{\pi}{6}\right) = \tan\left(\frac{11\pi}{6}\right) = \frac{\sin\left(\frac{11\pi}{6}\right)}{\cos\left(\frac{11\pi}{6}\right)} =$$

$$= \frac{-\frac{1}{2}}{\frac{\sqrt{3}}{2}} = -\frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = -\frac{\sqrt{3}}{3}$$