

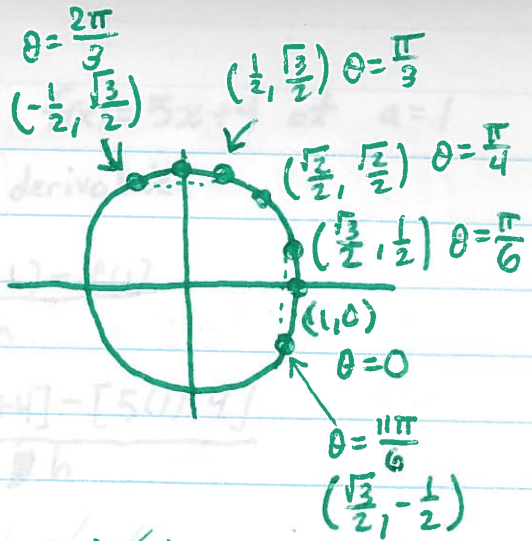
MATH 1540 Quiz 2

Use unit circle to find...

a) $\cot\left(\frac{\pi}{3}\right)$

b) $\sin\left(\frac{11\pi}{6}\right)$

c) $\sec\left(\frac{2\pi}{3}\right)$



Solution:

$$a) \cot\left(\frac{\pi}{3}\right) = \frac{x}{y} = \frac{1/2}{\sqrt{3}/2} = \left(\frac{1}{2}\right)\left(\frac{2}{\sqrt{3}}\right) = \frac{1}{\sqrt{3}}$$

$$b) \sin\left(\frac{11\pi}{6}\right) = -\frac{1}{2}$$

$$c) \sec\left(\frac{2\pi}{3}\right) = \frac{1}{x} = \frac{1}{-1/2} = (1)\left(-\frac{2}{1}\right) = -2$$

OR

$$f'(1) = \lim_{b \rightarrow 1} \frac{f(b) - f(1)}{b - 1}$$

$$= \lim_{b \rightarrow 1} \frac{(5b+4) - (5(1)+4)}{b-1}$$

$$= \lim_{b \rightarrow 1} \frac{5(b-1)}{b-1}$$

$$= \lim_{b \rightarrow 1} 5$$

$$= 5$$