

Formula Sheet for Math 151, Final Exam

TRIGONOMETRY

x	0	$\pi/6$	$\pi/4$	$\pi/3$	$\pi/2$
$\sin(x)$	0	$1/2$	$\sqrt{2}/2$	$\sqrt{3}/2$	1
$\cos(x)$	1	$\sqrt{3}/2$	$\sqrt{2}/2$	$1/2$	0
$\tan(x)$	0	$\sqrt{3}/3$	1	$\sqrt{3}$	$\pm\infty$

GEOMETRY

Distance: $d = \sqrt{(x_1 - x_0)^2 + (y_1 - y_0)^2}$

Volume: Cone/Pyramid: $\frac{1}{3}$ base area \times height, Sphere: $\frac{4}{3}\pi r^3$

DERIVATIVES OF SOME INVERSE TRIGONOMETRIC FUNCTIONS

$$\frac{d}{dx} \sin^{-1}(x) = \frac{1}{\sqrt{1-x^2}}, \quad \frac{d}{dx} \tan^{-1}(x) = \frac{1}{x^2+1}, \quad \frac{d}{dx} \sec^{-1}(x) = \frac{1}{|x|\sqrt{x^2-1}}$$