Sections Covered In Miller: 5.5, 5.6, 5.7, 6.1, 6.2 (plus equations of lines; this covers homeworks 8, 9, and 10)

Calculator Policy: Calculator use won't be allowed on this exam. There won't be tedious calculations, but may be some basic arithmetic.

This review is provided as a courtesy to give some idea of what material is covered. Nothing else is intended or implied.

Potentially useful formulas: (these will be provided)

$$\sin(u \pm v) = \sin u \cos v \pm \sin v \cos u$$

$$\cos(u \pm v) = \cos u \cos v \mp \sin u \sin v$$

$$\tan(u \pm v) = \frac{\tan u \pm \tan v}{1 \mp \tan u \tan v}$$

1. Fill in the missing values in the table of trigonometric values for select angles. You may wish to do this from memory or by making use of convenient right triangles.

$\theta°$	$0°$		$45°$	$60°$	$90°$
θ radians	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$		$\frac{\pi}{2}$
$\sin\theta$					1
$\cos\theta$					
$\tan\theta$			1		

2. Evaluate each trigonometric expression exactly if it exists. (Check with a calculator, but be able to do this without one. You can be sure I will ask you to do so on an exam.)

(a) $\cos\left(\frac{3\pi}{2}\right)$

(b) $\cot(2\pi)$

(c) $\csc\left(\frac{5\pi}{6}\right)$

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

(e) $\tan\left(\frac{3\pi}{4}\right)$

(f) $\cos\left(\frac{5\pi}{4}\right)$

(g) $\sec\left(\frac{5\pi}{2}\right)$

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

(i) $\tan\left(\frac{5\pi}{3}\right)$

3. Find the remaining trigonometric values of the angle described.

(a) $\tan \theta = \dfrac{7}{6}$, with terminal side in quadrant 3

(b) $\sin x = -\dfrac{4}{5}$, with terminal side in quadrant 4

(c) $\sec \phi = -6$ wiih terminal side in quadrant 2

4. Evaluate each expression exactly.

(a) $\sin(70°)\cos(25°) - \sin(25°)\cos(70°)$

(b) $\cos(27°)\cos(3°) - \sin(27°)\sin(3°)$

(c) $\dfrac{\tan\left(\frac{5\pi}{36}\right) + \tan\left(\frac{\pi}{9}\right)}{1 - \tan\left(\frac{5\pi}{36}\right)\tan\left(\frac{\pi}{9}\right)}$ (Hint: $\frac{5\pi}{36} + \frac{\pi}{9} = \frac{\pi}{4}$)

5. State the domain and range of each of the six trigonometric functions. Use interval notation or set builder notation.

6. State the domain and the range of each of $f(x) = \sin^{-1}(x)$, $g(x) = \cos^{-1}(x)$ and $H(x) = \tan^{-1}(x)$ using interval notation.