REVIEW TEST #1
Chapters 1, 2, and

Review the following homework problems:

Chapter 1 – The Six Trigonometric Functions

Section 1.1	10, 14, 27, 33, 37, 39, 44, 46, 47, 53, 55
Section 1.2	80, 81
Section 1.3	29, 31, 33, 35, 43, 45, 49, 53, 59, 61, 63, 65, 67, 71
Section 1.4	27, 31, 35, 39, 43, 47, 49, 51, 53, 55
Section 1.5	21, 25, 27, 31, 35, 39, 43, 49, 57, 71, 75, 79, 83, 85, 89, 91

Chapter 2 – Right Triangle Trigonometry

Handout	All problems
Section 2.1	27 – 51 odd
Section 2.2	15, 19, 23, 27

Chapter 3 – Radian Measure

Section 3.1	13, 17, 21, 25, 67, 69, 71, 73, 75, 77, 79
Section 3.2	9, 51 – 63 odd, 77, 77, 81
Section 3.3	1, 3, 9, 11, 13, 15, 17, 19, 21, 39, 41, 42, 45, 47, 49, 51, 52, 53, 54, 55, 57, 59
Section 3.4	11, 13, 15, 21, 33, 43, 53, 54
Section 3.5	5, 12, 20, 21, 28, 43, 49, 53, 55

(1.) Find $\sin\frac{11\pi}{2}$, $\cos 7\pi$, $\tan 6\pi$ (Answers: $-1, -1, 0$)

(2.) Find the exact values of

a) $\sin 45^\circ + \cos 60^\circ$

b) $\sin 30^\circ - \cos 45^\circ$

c) $\tan\frac{\pi}{3} + \cos\frac{\pi}{3}$

(3.) Find all the other trigonometric functions of θ if $\tan\theta = \frac{-1}{3}$ and $\sin\theta > 0$

(Answers: $\sin\theta = \frac{\sqrt{10}}{10}$, $\cos\theta = -\frac{3\sqrt{10}}{10}$)

(4) Simplify:

$$\frac{\sin(-20^\circ)}{\cos 380^\circ} + \tan 200^\circ$$

(Answer: 0)

(5) Write $\tan t$ in terms of $\cot t$

(6) if $f(\theta) = \cos\theta$ and $f(a) = \frac{1}{4}$, find:

a) $f(-a)$

b) $f(a) + f(a+2\pi) + f(a-2\pi)$

(Answers: a) $\frac{1}{4}$ b) $\frac{3}{4}$)

(7.) Prove the following identities:

a) $\tan\theta\cot\theta - \cos^2\theta = \sin^2\theta$

b) $9\sec^2\theta - 5\tan^2\theta = 5 + 4\sec^2\theta$

c) $$\frac{\cos\theta}{1+\sin\theta} + \frac{1+\sin\theta}{\cos\theta} = 2\sec\theta$$

d) $$\frac{\sec\theta}{1-\sin\theta} = \frac{1+\sin\theta}{\cos^3\theta}$$

e) $$\frac{\cos\theta + \sin\theta - \sin^3\theta}{\sin\theta} = \cot\theta + \cos^2\theta$$

f) $$\tan\alpha\tan\beta = \frac{\tan\alpha + \tan\beta}{\cot\alpha + \cot\beta}$$