

### Extra Credit for Midterm Exam

**Due Thursday, July 14, 6:00 p.m.** No late assignments will be accepted. Assignments must be handed in to either my office (JWB 306), my mailbox (in JWB 228), or emailed to me.

Directions: Show all work for full credit. Simplify all answers completely. Clearly indicate all answers. You are allowed to use the textbook, your class notes, homework problems, quizzes, and exam as references. However, the use of calculators is not permitted.

#### **Work independently.**

Do the problems in order on a separate sheet of paper. Be sure to staple multiple page assignments and tear off rough edges before handing in this assignment.

This assignment is worth a maximum of 20 points. The points you earn will be added to your score from the Midterm Exam.

1. Given that  $\cos t = \frac{3}{4}$  and  $\frac{3\pi}{2} \leq t \leq 2\pi$ , find the following: (3 points each)

(a)  $\sin t$

(b)  $\cos(t + 136\pi)$

(c)  $\sec(-t)$

2. Find the exact value of  $\cot(\arccos(-\frac{3}{4}))$ . (3 points)

3. Simplify the following expression: (4 points)

$$\frac{1 + \cos \phi}{\sin \phi} + \frac{\sin \phi}{1 + \cos \phi}$$

4. Give all solutions to the following equation: (4 points)

$$\sin 3x(3 \tan^2 x - 1) = 0$$