

**WORKSHEET FOR HOMEWORK 15**  
**DUE FRIDAY, 12-5-08**

- (1) Use the book's proof to derive formula (2) of the sum and difference formulas listed on page 453.
- (2) Use formula (2) of the sum and difference formulas (pg 453) to derive formula (1) of the sum and difference formulas (pg 453).
- (3) Show that formulas (2),(3) and (4) on page 463 are equivalent.
- (4) Use the double angle formulas (page 463) to write  $\sin^2(\theta)$  as a function involving only the trigonometric function cosine.
- (5) Use the double angle formulas (page 463) to write  $\cos^2(\frac{\theta}{2})$  as a function involving only the trigonometric function cosine.
- (6) Derive the product-to-sum formulas (1), (2) and (3) on page 472 by using the two sum and difference formulas on page 453.
- (7) Use the sum formula for the tangent function to show that the function  $\tan(\theta)$  has period  $\pi$ .