Chapter 5 Optional Assignment
Show all of your work in the space provided, INCLUDING the appropriate formulas. Please be sure to mark your answers clearly.

1. $\dfrac{\cos 2x}{\sin x \cos x} = \cot x - \tan x$

2. $\cos^4 x - \sin^4 x = 1 - 2\sin^2 x$

3. If $\cos A = -\dfrac{3}{5}$ and $90° \le A \le 180°$ and $\sin B = \dfrac{5}{13}$ and $90° \le B \le 180°$, find $\csc(A+B)$.

Condense the following equations and find the exact value of the following problems.

4. $1 - 2\sin^2 75°$

5. Evaluate $\cos\left(\arccos\dfrac{4}{5} - \sin^{-1}\left(-\dfrac{1}{2}\right)\right)$. (Hint, draw a picture)