Honors Trigonometry Name _____

Copy original problem. Per _____ Date _____

Convince *me* that **you** understand the concept***!***

Chapter 5 Exam

I

For each problem find all missing parts. Each problem defines at least one triangle. (ie. There are no "no triangle" results.) Round lengths to 4 decimal places and degrees to nearest minute. (70 pts tot)

A) $\begin{cases} a = 10 \\ b = 15 \\ c = 20 \end{cases}$

B) $\begin{cases} a = 12 \\ b = 20 \\ C = 30^\circ \end{cases}$

C) $\begin{cases} A = 38^\circ \\ B = 25^\circ \\ b = 15 \end{cases}$

D) $\begin{cases} a = 7 \\ b = 9 \\ A = 35^\circ \end{cases}$

E) $\begin{cases} a = 3 \\ b = 4 \\ c = 5 \end{cases}$

II

Solve $\forall \quad \theta \; \varepsilon \quad 0 \leq \theta < 360^\circ$ (10 pt ea)

A) $\cos^2(\theta + 60^\circ) - \sin^2(\theta + 60^\circ) = \frac{1}{2}$

B) $\sin\theta + \cos\theta = 1$

III

Given $0 \leq \theta < 90^\circ$, and $\tan^2\theta = \frac{2}{3}$. Find $\csc 2\theta$. No Decimals on this problem. (10 pts)

Extra Credit ---------- 5 pts ----------

Find the area of each of the triangles in section I.