Exam 2 Reference

Rounding: Round <u>final</u> answers to the place requested. Remember not to round numbers in the middle of a problem -- it leads to inaccuracy! Use the "store" feature of your calculator to store intermediate values in a letter on your calculator or use "2nd Ans".

sine $\sin(\theta) = \dfrac{opp}{hyp}$	cosecant $\csc(\theta) = \dfrac{1}{\sin(\theta)}$
cosine $\cos(\theta) = \dfrac{adj}{hyp}$	secant $\sec(\theta) = \dfrac{1}{\cos(\theta)}$
tangent $\tan(\theta) = \dfrac{\sin(\theta)}{\cos(\theta)} = \dfrac{opp}{adj}$	cotangent $\cot(\theta) = \dfrac{1}{\tan(\theta)} = \dfrac{\cos(\theta)}{\sin(\theta)}$

Law of Sines:

$$\frac{\sin(A)}{a} = \frac{\sin(B)}{b} = \frac{\sin(C)}{c} \quad \text{or} \quad \frac{a}{\sin(A)} = \frac{b}{\sin(B)} = \frac{c}{\sin(C)}$$

Law of Cosines:

$$a^2 = b^2 + c^2 - 2\,b\,c\cos(A) \qquad \cos(A) = \frac{b^2 + c^2 - a^2}{2bc}$$

$$b^2 = a^2 + c^2 - 2\,a\,c\cos(B) \qquad \cos(B) = \frac{a^2 + c^2 - b^2}{2ac}$$

$$c^2 = a^2 + b^2 - 2\,a\,b\cos(C) \qquad \cos(C) = \frac{a^2 + b^2 - c^2}{2ab}$$

Pythagorean Identities:

$$\sin^2 x + \cos^2 x = 1 \qquad 1 + \tan^2 x = \sec^2 x \qquad 1 + \cot^2 x = \csc^2 x$$