

Trigonometry Review

Session 1

- A. Right triangle trigonometry
 - 1. Similar triangles
 - 2. Definition of the 6 trig functions
 - 3. Relationships between the trig functions
(e.g. $\sin^2\theta + \cos^2\theta = 1$; $\tan\theta = \sin\theta/\cos\theta$)
 - 4. 30° - 60° - 90° and 45° - 45° - 90° triangles
- B. Extension of definitions using the unit circle
 - 1. Values of the trig functions in each of the four quadrants
 - 2. Periodicity; opposite angle formulas
 - 3. Values of the trig functions at 90° , 180° , 270° , 360° , etc
 - 4. Using reference angles to evaluate trig functions
 - 5. Elementary identities

Session 2

- A. Radian measures of angles
 - 1. Conversion between degrees and radians
 - 2. $s = r\theta$; $A = \frac{1}{2}r^2\theta$
- B. Graphs of trig functions
 - 1. Graphs of $y = A \sin(Bx + C)$ and $y = A \cos(Bx + C)$
 - 2. Graphs of $\tan x$ and $\cot x$
- C. Inverse trig functions
 - 1. Definition of Arcsin and Arctan
 - 2. Graphs of Arcsin and Arctan

Session 3

- A. Addition formulas and corollaries
 - 1. $\sin(\alpha + \beta)$ and $\cos(\alpha + \beta)$
 - 2. Double angle and half angle formulas
 - 3. Identities
- B. Trigonometric Equations
 - 1. Examples (e.g.: $\sin 3x = 1$)