

## Analysis CP- Can You

### Unit 5: Inverse Trig Functions and Solving Trig Equations

#### CAN YOU:

- Recognize and use inverse trig notation, such as  $y = \sin^{-1} x$  or  $y = \arctan x$  ?
- Graph a trig function ( $y = \sin x$ ,  $y = \cos x$ ,  $y = \tan x$ ) and its inverse for Principal Values and determine the domain and range of the functions?
- Evaluate inverse trig expressions using the Unit Circle?
- Evaluate inverse trig expressions using the calculator when values are not on the Unit Circle?
- Write an inverse trig equation from a given trig equation?
- Solve trig equations:
  - Analytically (algebraically) showing proper supporting work?
  - Using square roots, the Factor & Zero Product Property, and/or the Pythagorean or Double Angle Identities?
  - Graphically?
- Solve trig equations for:
  - Principal values of  $x$  (in radian)?
  - Values on a given interval (such as  $0 \leq x < 2\pi$ )?
  - All values using  $\pm 2\pi k$  (for  $\sin x$  or  $\cos x$ ) or  $\pm \pi k$  (for  $\tan x$ )?
- Solve trig inequalities analytically or graphically?
- Solve real world problems using inverse trig functions?