

## Notes for Section 6.1 – Right Triangle Trigonometry

- I. Given only angle measures: Use the  $180^\circ$ -rule for triangles.  
(You can't find side lengths without at least one side measure.)
- II. Given only side lengths: Use the Pythagorean Theorem.
- III. Given a mixture of side lengths and angle measures:
  - A. To find an angle measure:
    1.  $180^\circ$  rule for triangles.
    2.  $\sin^{-1}$  (arcsin),  $\cos^{-1}$  (arccos),  $\tan^{-1}$  (arctan)
  - B. To find a side length:
    1. Label the parts of the triangle you are given.
    2. Figure out what you're looking for.
    3. Determine the relationship the two sides have with the given angle. (SOH CAH TOA)
    4. Find the trig function (sin, cos, tan) that uses that relationship.
    5. Plug your values into that trig function.
    6. Solve for your variable!

Other stuff:

- Only take trig values of **angle measures**. Never hit the “sin”, “cos” or “tan” keys unless you've just typed in (or already have displayed on your calculator) an angle measure.
- When trying to find a side length (part III, B, 6) one method that prevents many algebraic errors is cross multiplying. Learn it, embrace it, and use it!
- You cannot do trigonometry without drawing pictures. They do not have to be perfect, but they need to be readable and detailed. Make sure you get yourself organized.