

Reading Assignment for Section 3.9

MATH 130: Calculus I, Sections 2 and 3
Fall Semester 2013

Follow the general guidelines for the Reading Assignment (the salmon colored handout). Be sure to include and label all four standard parts a,b,c,d of the Reading Assignment in what you hand in. Be sure to **staple** together pages if you have more than one, and include your **name** and which **section** of calculus you are in at the top of the page. Neatness is appreciated!!!

Due: at the beginning of class on Wednesday, October 23rd

Read:

Section 3.9, pages 202-208: Derivatives of inverse trigonometric functions!

Notes:

This reading discusses the derivative of inverse trigonometric functions. Notice that the derivatives of inverse trigonometric functions are algebraic not trigonometric! We get to use the ideas we discussed at the beginning of the semester!

Remember that your answers should include complete sentences for every question.

Reading Questions for part (a):

1. In the proof of the derivative of inverse sine on page 202, the text uses a trigonometric identity to bring the reader back to x 's. There is an alternate method, which we discussed at the beginning of the semester. Using the fact that $\sin y = x$, we can make and label a triangle to figure out what $\cos y$ is. Do this now and use it to explain and illustrate what $\cos y$ is.
2. In Theorem 3.22 when the text gives the formulas for the derivatives of the inverse functions, they include restrictions on the values of x for which the formulae hold. Hopefully these restrictions make sense given the derivatives that are shown. However, you should have been able to tell me what restrictions there were on x BEFORE you saw what the derivative looked like. Why? How would you find these values? Make it clear not only how you would find them but why they would have a connection to the derivative.

Remember parts b-d on the salmon handout!