More Differentiation Rules.

Two formulas: (d)  (e) . At this point you have two options: Believe them or become a math major.

The product rule: If  then 

Example: Find  if . 

Example: Find  if . Note you have two terms each of which has to be differentiated using the product rule: 

The quotient rule: If  then 

Example: Differentiate . Note we differentiated earlier so you can just use the answer we got earlier. . Note each term contains so it cancels.

 

Now multiply numerator and denominator by to clear the fraction in the numerator.

 

Note is written before the radical to make it clear it is not under the radical.