Find the derivative with respect to x of the following functions. **Additionally, find the derivative with respect to a of function h.**

Provide your answers on this sheet. Where you took more than one step to arrive at the final result, please include the important steps. You may fill out the sheet by hand and submit a scanned version.

1. Derivative of *f* is a straight application of Power Rule

1. Derivative of *g* requires the use of the Chain Rule  
     
   Let
2. The value of *a* is a constant in this partial derivative

1. The value of *x* is a constant in this partial derivative. Using the Sum rule the partial derivative of the second expression is the derivative of a constant (with respect to *a*)*,* so it resolves to 0.

1. The derivative of k is a straight application of the Power Rule

Note the used in the derivative for the function h. and indicate these are the **partial derivative** to x and a respectively.