

**Find the derivatives of the following functions.
Don't worry about algebraic simplifications.**

1. $f(x) = \arcsin(x^2)$

2. $f(x) = \arcsin(2x)$

3. $f(x) = \arctan(4x)$

4. $f(x) = \arctan(\ln(x))$

5. $f(x) = \arctan(\arcsin(x))$