IMPLICIT DIFFERENTIATION

TEXT: 2.7, 2.8

LAST NAME	FIRST NAME	DATE

1 (9 points). Find the derivative function:

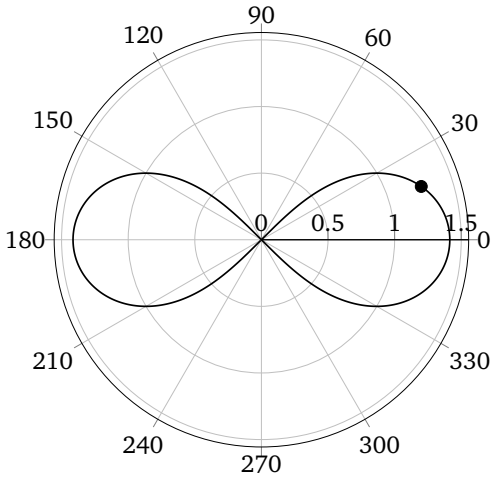
(a) $h(x) = \tan^{-1}(\ln(\sqrt{x}))$

(b) $g(x) = (\sinh^{-1} x)^{1-x^2}$

2 (4 points)**.** Find an equation of the line tangent to the graph of the lemniscate of Bernoulli

$$(x^2 + y^2)^2 = 2(x^2 - y^2)$$

at the point $(1.2, 0.4)$



3 (4 points)**.** Find the derivative function:
$j(x) = (1 + \tan^2 x)\sin^5(2x)$

$j'(x) =$

4 (4 points). Find the derivative function:

$k(x) = \dfrac{\sqrt{\cos^{-1} x}}{\log(2-3x)}$

$k'(x) =$