2. (8 pts each) Differentiate the following functions:

a)
$$f(x) = \sqrt{9} - f(x) = sqrt(9-x^{2})+3sin^{-1}((x)/(3))$$

$$f(x)=sinh(tan^{-1})e^{-2x}$$

- 3. (7 pts each) Evaluate the following indefinite integrals:
 - a) int(1+tanh x)/(cosh $^(2)$ x)dx

b)
$$\int \frac{1 + \tanh x}{\cosh^2 x} \, dx$$

c)int(dx)/(sqrt(4x-x^(2)))

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4. (10 pts each) Evaluate the following definite integrals:

 $a\big)\,\text{int}_\text{(1)^(e^(2))}x$ In sqrtxdx

 $\mathrm{b}) \, \mathsf{int} _(0) \wedge ((\mathsf{pi}) / (4)) (\mathsf{sin} \wedge (3) \mathsf{x}) / (\mathsf{sqrt} (\mathsf{cos} \ \mathsf{x})) \mathsf{dx}$