

You must get seven of the eight problems completely correct to pass. You do not need to simplify your answers.

For problems 1-7 below, compute $\frac{dy}{dx}$.

1. $y = \sin(\cos x)$

2. $y = \frac{e^x}{\ln x}$

3. $y = \sin^{-1}(\sqrt{x^2 + 1})$

4. $y = (5x^6 + 6x^5)^{65}$

5. $x^3 + 4y^3 - x^2y = 9$

6. $y = 3^\pi + \pi^3$

7. $y = \frac{x^2 + e^x}{\sqrt[3]{x} - 1}$

For problem 8, compute $\frac{d^2y}{dx^2}$.

8. $y = \tan^{-1} x$