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1. Find  $y'$ :  $x^2 + 4xy + 3y^2 = 5$
  2. Find  $y'$ :  $\sqrt{3x^2 - 6y^2} = \sin(xy)$
  3. Find  $y'$ :  $xe^y + ye^x = xy$
  4. Find  $y'$ :  $\sin\left(\frac{x}{y}\right) = \frac{y}{x}$
  5. Find  $y'$ :  $xy \sin(xy) = e^{xy}$
  6. Find  $y''$ :  $x^2y - xy^2 = 1$
  7. Find  $y''$ :  $\sin x + \cos x = \tan(x + y)$
  8. Differentiate the function  $f(x) = \sin^{-1}(4x^2 - 1)$
  9. Differentiate the function  $f(x) = \tan^{-1}(e^{x^2})$
  10. Differentiate the function  $f(x) = \sec^{-1}(2x + e^x)$