Quiz 6:

1. (3 points each) Calculate the first derivative of each of the functions below. At each step, justify your work by stating which derivative rule you are applying. You must give your final answer in simplest form to receive full credit, i.e., do all multiplications and exponents.

   (a) \( y = x \cos x + \frac{3x^2 - 1}{2x^2 + 1} \)

   (b) \( y = \sin(x^2 + 5x) \)

2. (4 points) Calculate the second derivative of \( y = \sec x \) and evaluate \( y'' \) at \( x = 0 \).