



3. [3 points] Use the Quotient Rule to find  $f'(x)$  if  $f(x) = \frac{\sin(x)}{x^2+1}$ . (You do not need to simplify your answer.)

4. [6 points] Find the derivative for each function below. Simplify your answer.

a.  $y = 2x^{4.1} - x + \pi^2$

b.  $y = 7x \cos(x)$

5. [6 points] Assume  $C(q)$  is the cost, in dollars, of manufacturing  $q$  widgets.

a. Using a complete sentence (or sentences), interpret the meaning of  $C(50) = 1120$ .

b. What are the units of  $C'(q)$ ?

c. Using a complete sentence (or sentences), interpret the meaning of  $C'(50) = 15$ .