

Find the derivative of the the following functions. **Do not simplify your answers.** (2 points each)

1. $f(x) = 5x^8 + 3x^4 - 2x^2 + 4$

2. $f(x) = 5x^{\frac{1}{5}} + 3x^{0.2} + \frac{1}{3}$

3. $f(x) = 2\sqrt{x} + \frac{1}{2\sqrt[5]{x^2}}$

4. $f(x) = 3\cos(x) - 5\sin(x)$

5. $f(x) = x^2\cos(x)$