HW: Arc Length

1. Set up, but do not evaluate, an integral for the length of the curve.
   \[ y = \cos x \quad \pi \leq x \leq 2\pi \]

2. Set up, but do not evaluate, an integral for the length of the curve.
   \[ x = y + y^3 \quad 1 \leq y \leq 4 \]

3. Find the length of the curve.
   \[ y = 1 + 6x^{3/2} \quad 0 \leq x \leq 1 \]

4. \[ y = \frac{x^5}{6} + \frac{1}{10x^3} \quad 1 \leq x \leq 2 \]