1. Evaluate \( \lim_{x \to 2} \frac{x^4 - 12x^2 + 16x}{x^4 - x^3 - 6x^2 + 4x + 8} \). Please show all work.

2. Consider the parametric curve \( x = 4 \cos t, \ y = 6 \sin t, \) for \( 0 \leq t \leq 2\pi \).
   (a) Find \( \frac{dy}{dx} \) from this parametric form.
   (b) Explain why a non-parametric form of the curve is \( \frac{x^2}{16} + \frac{y^2}{36} = 1 \).
   (c) Find \( \frac{dy}{dx} \) by implicit differentiation from (b).