

1. Let $f(x) = \cos(2x^3)$.
 - (a) Write $f(x) = g \circ h(x)$ where g and h are functions that you know how to differentiate.
 - (b) Compute the derivatives of the functions g and h that you found in part a).
 - (c) Use the chain rule to compute the derivative of f .
2. Consider a circle that is increasing over time and suppose the circumference is increasing at the rate of 2 meters/second.
 - (a) Find the rate of change for radius with respect to time.
 - (b) Find the rate of change of area when the radius is 3 meters.