The wind chill function is

$$C(T,v) = 35.74 + 0.6215T - 35.75v^{0.16} + 0.4275Tv^{0.16}$$

The wind speed is v miles per hour and the temperature is T degrees Fahrenheit. If the measurements of the wind speed and temperature are 23 miles per hour and 8°F, with maximum errors of 3 miles per hour and 3°F respectively, find the approximate maximum error in calculating *C*.

The radius of a right circular cylinder is increasing at a rate of 7 inches per minute and the height is decreasing at a rate of 4 inches per minute. What is the rate of change of the volume when the radius is 18 inches and the height is 34 inches?