- An object is cooling in such a way that its temperature in degrees Celsius after t minutes is given by $C = 80 - 0.01t^2$. The formula $f = \frac{9}{5}c + 32$ is used to convert from temperatures in Celsius to Fahrenheit. Find the temperature of the object in degrees Fahrenheit at time t.

$$f = \frac{9}{5}c + 32$$

$$C = 80 - 0.01t^2$$

Plug C into f

$$f(t) = \frac{9}{5}\left(80 - 0.01t^2\right) + 32$$

or

$$f(t) = 176 - 0.018t^2$$