4. [8 points] The number of people p (in thousands) who are sick with the flu virus t days after January 1, 2014 is given by

$$p = g(t) = \frac{3}{1 + e^{-0.3t}}$$

a. [4 points] Find a formula for $g^{-1}(p)$. Show all your steps to receive full credit.

$g^{-1}(p) =$ _____

b. [2 points] What is a practical interpretation of $g^{-1}(2)$? You do not need to compute its value. Include units.

c. [2 points] The quantity of flu vaccine q (in liters) produced by a company t days after January 1, 2014 is given by

$$q = f(t) = \frac{\sqrt{5}\, t^2}{(1 + 2t)^2}.$$

What eventually happens to the quantity of flu vaccine produced? Give your answer in **exact form**.

$\lim_{t \to \infty} f(t)$=_____