

2. [10 points] A tank is full of a fixed amount of neon gas.

- The function $f(T)$ gives the pressure exerted by the neon gas on the tank, in Pascals (Pa), when the gas in the tank is T °C.
- The function $g(t)$ gives the temperature of the gas in the tank, in °C, t minutes after the heating source was turned on.

a. [4 points] Give an expression, involving the functions g , f or their inverses, that represents each of the following quantities.

- (i) The pressure of the gas in the tank, in Pa, 4 minutes after the heating source was turned on.

Answer: _____

- (ii) The temperature of the neon gas, in °C, h hours after the heating source was turned on.

Answer: _____

b. [6 points] For each of the following expressions or equations, write a phrase or sentence describing what it means in the context of the problem. If the expression or equation does not make sense in the context of the problem, write “NA” and explain why not. **Make sure to include all relevant units.**

(i) $f^{-1}(50) = 60$

Meaning/Explanation:

(ii) $f^{-1}(g^{-1}(12))$

Meaning/Explanation:

(iii) $g(0) = g(5) + 10$

Meaning/Explanation: