3. [11 points] The strawberries at Maggie's farm are ready to be picked. Her friend Arun is willing to help out.

- Let $M(t)$ be the amount of strawberries, in pounds, that Maggie can pick in t minutes.
- Let $A(t)$ be the amount of strawberries, in pounds, that Arun can pick in t minutes.

Assume that both of these functions have inverses.

a. [5 points] For parts i. and ii. below, write a complete sentence giving a practical interpretation of the given equation.

i. $M^{-1}(2) = 10$

ii. $M(A^{-1}(5)) = 8$

b. [3 points] Suppose that, together, Maggie and Arun pick P pounds of strawberries in total. If Arun picked strawberries for 180 minutes, write an expression for the time, in minutes, that Maggie picked strawberries. *Your answer may involve the quantity P, but you should* ***not*** *assume that Maggie and Arun picked strawberries for equal amounts of time.*

Answer: _____

c. [3 points] Define the function $N(s)$ to be the amount of strawberries, in **ounces**, that Maggie can pick in s **hours**. Write a formula for $N(s)$ in terms of M. *There are 16 ounces in a pound.*

Answer: $N(s) =$ _____