3. [0 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. \( M^{-1}(2) = 10 \)

[Solution: Maggie can pick 2 pounds of strawberries in 10 minutes.]

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

[Solution: In the time Arun can pick 5 pounds of strawberries, Maggie can pick 8 pounds of strawberries.]

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: \( M^{-1}(P - A(180)) \)

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: \( N(s) = 16M(60s) \)