3. [12 points] Oakley gets exercise every day in one of two ways: either by walking outside, or following instructions from an exercise app.

- \( f(d) \) is the amount of time, in minutes, it takes Oakley to walk \( d \) miles.
- \( f(d) \) is invertible.
- \( W(t) \) is Oakley’s heart rate, in beats per minutes, \( t \) minutes after they start walking.
- \( A(t) \) is Oakley’s heart rate, in beats per minutes, \( t \) minutes after they start using the exercise app.

a. [8 points] For each of the following, give a practical interpretation of the given expression, or explain why the expression does not make sense in the context of the problem.

i. \( f^{-1}(5) \)

ii. \( W(f(1.5)) = 95 \)

iii. \( W(40) < A(20) \)

b. [4 points] Find an expression for Oakley’s average speed, in miles per hour, when Oakley has walked a total of \( d \) miles. Your answer may involve \( f, W, \) and/or \( A \).

4. [10 points] The plot below shows a graph of \( y = B(t) \), the height in feet of a buoy floating in the ocean \( t \) minutes after 6 am.

![Graph of y = B(t)](image)

Use the graph to answer the following questions:

a. [2 points] What is the period of \( B(t) \)? Include units.

b. [3 points] For each of the following transformations, write down if the the function is even, odd, or neither.

i. \( B(t - 7.5) + 1 \)

ii. \( -B(t) + 2.25 \)

iii. \( B(-t) \)

c. [5 points] Let \( G(h) \) be the function telling you the height in inches, at time \( h \) hours after 8 am. Write a formula for \( G(h) \) in terms of \( B \). (Recall that there are 12 inches in one foot.)