Math 10B - Discussion 3 Solutions

First, observe that $\int_{a}^{b} w(t) dt$ is the total weight gained from years $a$ to $b$ of a person’s life. To find the average weight over these years, simply divide the integral by the number of years that have passed, calculated by $b - a$. Thus, $\int_{0}^{20} w(t) dt$ is the total weight gained from birth to age 20, and to find the average weight gained, we must divide this by $20 - 0$. Hence,

$$\frac{1}{20 - 0} \int_{0}^{20} w(t) dt$$

is the average weight gained as desired.