2. (4 points) As an avid online music trader, your rate of transfer of mp3's is given by m(t) measured in songs/hour where t = 0 corresponds to 5 pm. Explain the meaning of the quantity

$$\int_0^5 m(t) dt.$$

 $\int_0^5 m(t) dt$ represents the number of songs transferred between 5 pm and 11 pm.

- **3.** (8 points) Suppose $\int_{-3}^{4} f(x)dx = 10$, $\int_{0}^{4} f(x)dx = 2$, and that f is an **odd** function. For each of the following integrals fill in the answer in the space provided.
- (a) $\int_{-3}^{4} 6f(x) dx = 6 \int_{-3}^{4} f(x) dx = 60$
- **(b)** $\int_{-3}^{0} f(x) dx = \int_{-3}^{4} f(x) dx \int_{0}^{4} f(x) dx = 8.$
- (c) $\int_{-4}^{0} f(x) dx = -\int_{0}^{4} f(x) dx = -2$ where we use that f(x) is an odd function.
- (d) $\int_{-4}^{-3} f(x) dx = \int_{-4}^{0} f(x) dx \int_{-3}^{0} f(x) dx = -10$