**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)** $\int_{-4}^{-3} f(x)\,dx = \int_{-4}^{0} f(x)\,dx - \int_{-3}^{0} f(x)\,dx = -10$