Let $f(x) = 2x$.
Let $g(x)$ be a function such that $\int_{0}^{5} g(x) \, dx = 8$ and $\int_{3}^{5} g(x) \, dx = 1$.

(a) Compute $\int_{0}^{3} f(x) \, dx$
   This integral is the area of the region between the graph of $f(x) = 2x$ and the $x$-axis. The region is a triangle with the base $3 - 0 = 3$ and the height $2(3) - 2(0) = 6$. Therefore its area is $\frac{3 \cdot 6}{2} = 9$.

(b) Compute $\int_{0}^{3} g(x) \, dx$
   Since $\int_{0}^{5} g(x) \, dx = \int_{0}^{3} g(x) \, dx + \int_{3}^{5} g(x) \, dx$, we have that $\int_{0}^{3} g(x) \, dx = \int_{0}^{5} g(x) \, dx - \int_{3}^{5} g(x) \, dx = 8 - 1 = 7$.

(c) Compute $\int_{0}^{3} 2f(x) + g(x) \, dx$
   $\int_{0}^{3} 2f(x) + g(x) \, dx = 2\int_{0}^{3} f(x) \, dx + \int_{0}^{3} g(x) \, dx = 2(9) + 7 = 25$. 