2. (4 points each) Suppose that f, g and h are continuous and differentiable functions such that $f'(x) = g(x)$ and **ALL** of the following conditions are also true:

$$\int_0^5 f(x)dx = -2, \qquad \int_5^{10} g(x)dx = 2, \qquad \int_0^5 g(x)dx = 15,$$

$$f(0) = 7, \qquad h(x) = g(x-5)$$

For parts (a)-(f), find the numerical value indicated. If insufficient information is given to answer the question indicate "Insufficient information".

(a) $\displaystyle\int_0^5 f(0)g(x)dx = f(0)\int_0^5 g(x)dx = 7(15) = 105$

(b) $\displaystyle f(10) = \int_0^{10} g(x)dx + f(0) = \int_0^5 g(x)dx + \int_5^{10} g(x)dx + f(0) = 15 + 2 + 7 = 24$

(c) $\displaystyle\int_0^5 |f(x)|\,dx =$ Insufficient Information

(d) $\displaystyle\int_0^5 \left(3f(0) - \frac{g(x)}{5}\right)dx = 3f(0)\int_0^5 dx - \frac{1}{5}\int_0^5 g(x)dx = 3(7)(5) - \frac{1}{5}(15) = 102$

(e) $\displaystyle\int_0^5 \frac{1}{g(x)}dx =$ Insufficient Information

(f) $\displaystyle\int_5^{10} h(x)dx = \int_0^5 g(x)dx = 15$