CALCULUS I – Worksheet #31

Suppose f and h are continuous functions and that:

$\int_1^7 f(x)\,dx = -2$ and $\int_7^9 f(x)\,dx = 6$ and $\int_7^9 h(x)\,dx = 5$ then find:

1) $\int_1^9 -2f(x)\,dx$ 2) $\int_7^9 [2f(x) - h(x)]\,dx$ 3) $\int_9^7 f(x)\,dx$ 4) $\int_7^7 [f(x) + h(x)]\,dx$

5) $\int \ln(x^2)\,dx$ 6) $\int \tan^{-1} x\,dx$ 7) $\int x^2 e^x\,dx$

8) $\int \frac{2}{x^2 + 9}\,dx =$ A) $\ln|x^2 + 9| + C$ B) $2\tan^{-1} 3x + C$ C) $\frac{2}{3}\sin^{-1}\frac{x}{3} + C$

D) $\frac{2}{3}\tan^{-1}\frac{x}{9} + C$ E) $\frac{2}{3}\tan^{-1}\frac{x}{3} + C$

9) $\int 3^x\,dx =$ 10) $\int 4^{(x-2)}\,dx =$