Name: _____ Score: _____

Teacher: _____ Date: _____

Definite Integrals - Properties

For questions 1 and 2 determine the value of the given integral given that $\int_6^{11} f(x)dx = -7$ and $\int_6^{11} g(x)dx = 24$

1. $\int_6^{11} 9f(x)dx$	**2.** $\int_6^{11} 6g(x) - 10f(x)dx$

For questions 3 – 10 determine the value of the given integral given that $\int_1^6 f(x)dx = -3$, $\int_1^{10} f(x)dx = 8$, $\int_1^6 g(x)dx = 4$ and $\int_6^{10} g(x)dx = 8$

3. $\int_1^6 \left(2f(x) + \frac{1}{2}g(x)\right)dx$	**4.** $\int_{10}^6 g(x)dx$
5. $\int_1^{10} g(x)dx$	**6.** $\int_{10}^{10} f(x)dx$
7. $\int_6^{10} f(x)dx$	**8.** $\int_5^{10} f(x-4)dx$
9. $\int_6^{10} (g(x)+3)dx$	**10.** $\int_{-1}^4 3g(x+2)dx$

Given that $\int_0^2 h(x)dx = -2$ and $\int_2^5 h(x)dx = 6$ find the value of

11. $\int_0^5 h(x)dx$	**12.** $\int_2^5 (h(x)+2)dx$

Let f be a function such that $\int_0^4 f(x)dx = 16$

13. Find the value of $\int_0^4 \frac{1}{4}f(x)dx$	**14.** If $\int_0^4 (f(x)+k)dx = 28$ Find the value of k

15.

Determine the value of $\int_{-4}^{20} f(x)\,dx$ given that $\int_{-4}^{0} f(x)\,dx = -2$, $\int_{31}^{0} f(x)\,dx = 19$ and $\int_{20}^{31} f(x)\,dx = -21$.