

AP Calculus – Area and Definite Integrals

Use the given integrals and their values to answer the questions 1 – 10.

$$\int_0^4 f(x) dx = 5, \int_3^4 f(x) dx = -1, \int_3^5 f(x) dx = -4$$

$$\int_0^5 g(x) dx = 12, \int_1^4 g(x) dx = -6, 2\int_0^1 g(x) dx = \int_4^5 g(x) dx, \text{ and } \int_4^3 g(x) dx = -9$$

1. $\int_0^3 f(x) dx$

6. $\int_1^5 g(x) dx$

2. $\int_4^5 f(x) dx$

7. $\int_0^3 (f(x) + g(x)) dx$

3. $\int_0^5 f(x) dx$

8. $\int_0^4 (2f(x) - 3g(x)) dx$

4. $\int_1^3 g(x) dx$

9. $\int_0^5 (4f(x) + g(x) + 8) dx$

5. $\int_4^5 g(x) dx$

10. $\int_3^4 f(x+1) dx$