

Integral Properties

$$\int_0^5 f(x) \, dx = 3 \quad \int_5^{10} f(x) \, dx = 5 \quad \int_0^5 g(x) \, dx = 4$$

$$\int_0^5 h(y) \, dy = -2 \quad \int_5^{10} h(y) \, dy = 7 \quad \int_0^5 j(x) \, dx = 6$$

1. Contrast two properties

(a) Calculate $\int_0^{10} f(x) \, dx$

(b) Calculate $\int_0^5 f(x) + g(x) \, dx$

(c) In both problems you used a summation property. What is the difference?

2. $\int_0^5 f(x) + j(x) \, dx$

3. $\int_0^5 7f(x) \, dx$

4. $\int_0^5 f(x) + h(x) \, dx$

5. $\int_0^5 f(x) - g(x) \, dx$

6. $\int_0^5 7f(x) - 3g(x) \, dx$

7. If $r(x) \geq j(x)$ for all x , what is true about $\int_0^5 r(x) \, dx$?

8. If $s(x) \leq j(x)$ for all x , what is true about $\int_0^5 s(x) \, dx$?