

Integration Properties

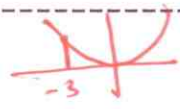
p. 366 - 373 (5.3)

62a

1. If f is defined at $x = a$, then $\int_a^a (f(x)) dx = 0$.
2. If f is integrable on $[a, b]$, then $\int_b^a (f(x)) dx = -\int_a^b (f(x)) dx$
3. If f is integrable and determined by a, b, c (closed intervals), then $\int_a^c (f(x)) dx = \int_a^b (f(x)) dx + \int_b^c (f(x)) dx$.

Evaluate the integrals.

**1. What are all the values of k for which $\int_{(-3)}^k x^2 dx = 0$? K=0



2. $\int_0^5 \left(\frac{-(x)}{3} + 4 \right) dx = \frac{95}{6}$ 3. $\int_0^1 (5 - 3x\sqrt{1-x^2}) dx = 4$

**4. If $\int_1^{10} (f(x)) dx = 4$ and $\int_{10}^3 (f(x)) dx = 7$, then

$\int_1^3 (f(x)) dx = ?$ 11