

Suppose  $f$  and  $g$  are continuous functions and that

$$\int_{-3}^2 g(x) dx = -4 \quad \int_0^2 g(x) dx = 1 \quad \int_{-3}^2 f(x) dx = 4$$

Find each integral.

a.  $\int_{-3}^0 g(x) dx =$

b.  $\int_{-3}^2 \left[ 0.5f(x) - \frac{g(x)}{5} \right] dx =$

Find the average value of the function on the interval. (For a) use the antiderivative; for b) use geometry to evaluate the integral.)

a.  $f(x) = 3x^2 + 1$   $[-1, 2]$

b.  $g(x) = -|x| + 4$   $[-4, 2]$