

Answer on Question #85490 – Math – Calculus

Question

Find the area of the region bounded by

$2y = 16 - x$, the x - axis, and the lines $x = -3, x = 3$.

Solution

$$S = \int_{-3}^3 \frac{1}{2}(16 - x)dx = \int_{-3}^3 8 dx - \int_{-3}^3 \frac{1}{2}x dx = 16x \Big|_{-3}^3 - 0 = 48.$$

Answer: $S = 48$.