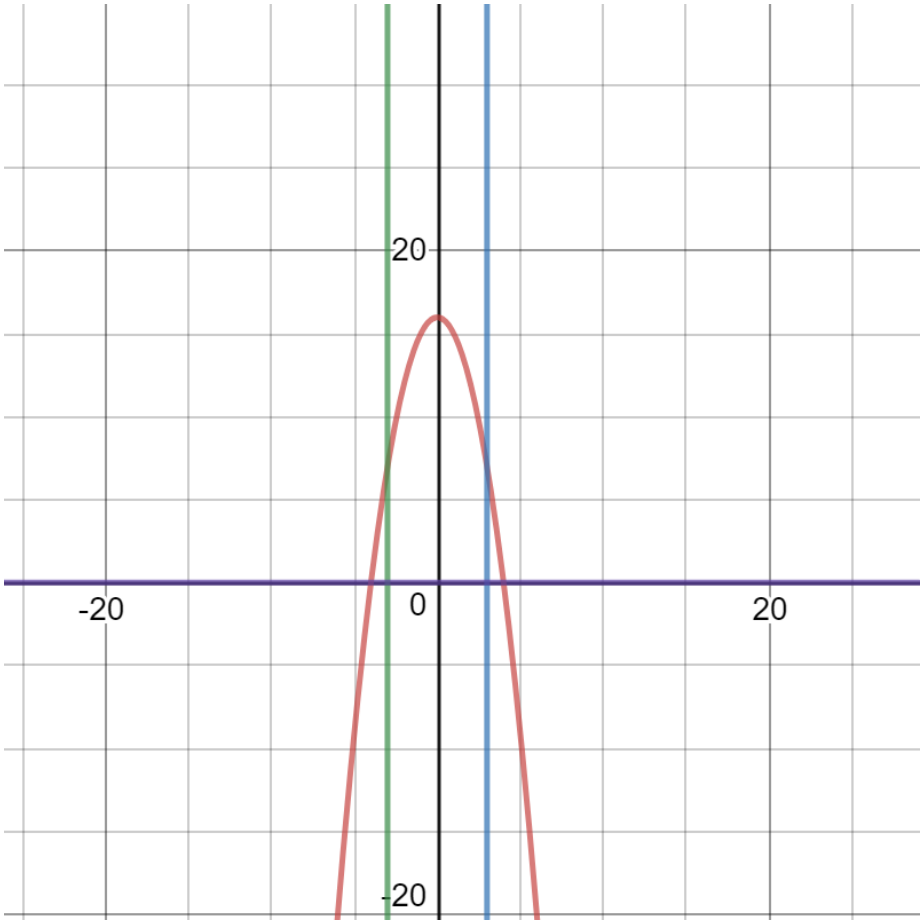
Answer on Question #84829 – Math – Calculus

Question

Find the areas of the region bounded by the y=16-x^2 the x-axis and the lines x = 3, x = -3.

Solution



The area of the region is equal to

$$\int_{-3}^{3}(16-x^2)dx = 16\int_{-3}^{3}dx - \int_{-3}^{3}x^2dx = 16\big(3-(-3)\big) - \frac{1}{3}(3^3-(-3)^3) = 16*6-(9+9) = 78$$

Answer: 78.