Answer on Question #46296 – Math – Calculus

Identify the maximum and minimum values of the function $y = 8\cos x$ in the interval $[-2\pi, 2\pi]$. Use your understanding of transformations, not your graphing calculator.

Solution:

Maximum and minimum values of $\cos x$ in the interval $[-2\pi, 2\pi]$ is 1 and -1. Since the function $y = 8\cos x$ is being multiplied by 8, the max and min would be 8 times that much, making the max: 8, and the min: -8:

$$-1 \leq \cos x \leq 1$$

$$-8 \leq 8\cos x \leq 8$$

Answer: maximum values $= 8$; minimum values = -8.