

BE - Alg 2: Precalc - Friday 9-11-09

ACT
KMS
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① For 2 consecutive integers, the result of adding the smaller integer and triple the larger integer is 79. What are the 2 integers?

② Hot Shot Electronics is designing a packing box for its new line of Acoustical Odyssey speakers. The box is a rectangular prism of length 45 centimeters, width 30 centimeters, and volume 81,000 cubic centimeters. What is the height, in centimeters, of the box?

Answers

Consecutive Integers
 $\Rightarrow N, N+1$

$$N + 3(N+1) = 79$$

$$N + 3N + 3 = 79$$

$$4N = 76$$

$$\boxed{N = 19}$$

$$\therefore \boxed{N+1 = 20}$$

Rectangular box $V = b \cdot l \cdot h$

$$\therefore 81000 = 45 \cdot 30 \cdot h$$

$$h = \frac{81,000}{45 \cdot 30} = \frac{2700}{45}$$
$$= \frac{540}{9}$$
$$= \boxed{60 \text{ cm}}$$