

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

ACT
KMS
6/9

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
 $\Rightarrow N, N+1$

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

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

$$4N = 76$$

$$N = 19$$

$$\therefore N+1 = 20$$

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

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

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