

Question:

Luke is spending time at the beach building sandcastles. He eventually notices that each level of a sandcastle will have half the square footage as the level below it. If he makes a 4 leveled sandcastle where the top level has a square footage of 16 what is the average square footage of a level?

Reasoning + Answer:

<think> The first level , which would be directly below the 16 square foot level , would be $16 * 2 = 32$ The second level would therefore be $32 * 2 = 64$ The third level would be $64 * 2 = 128$ Altogether , the sand castle is $16 + 32 + 64 + 128 = 240$ square feet The average square footage of each level would be $240 / 4 = 60$ </think><answer>60</answer>