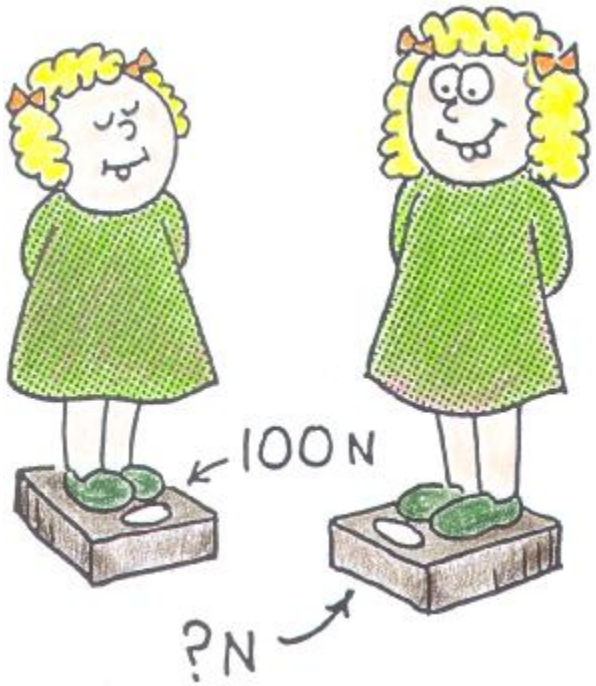
# NEXT-TIME QUESTION



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How much will she then weigh? (Assume her density remains unchanged.)

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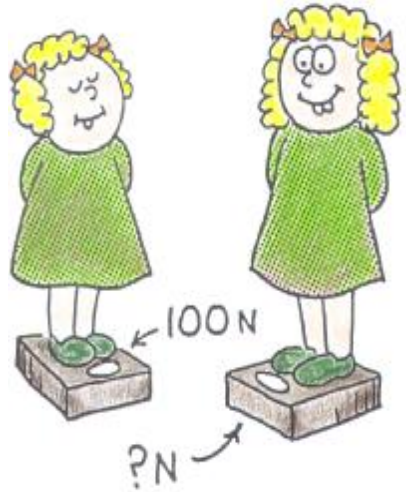


## Answer: 116 newtons

Her weight increases by 16% and she weighs 116 newtons. This is because a 5% increase means that each dimension of her body increases to 1.05 what it was the year before. So the scaling factor is 1.05. Her weight increases in proportion to the cube of this scaling factor:

$$1.05 \times 1.05 \times 1.05 = 1.16$$

So she is 1.16 times heavier than the year before.