Formula = $3.\dot{3}(n-6.\dot{6})^2$

n being the side length

Ex. 20×20 box

Volumes

1×18×18 = 324
2×16×16 = 512
largest whole number volume → 3×14×14 = 588
4×12×12 = 576
5×10×10 = 500

To get our first dimensions, we took away 1cm from each side

We now know the largest volume has to be between 3 and 4

3×14×14 = 588
3.1×13.8×13.8 = 590.364
3.2×13.6×13.6 = 591.872
Largest single decimal volume → 3.3×13.4×13.4 = 592.548
3.4×13.2×13.2 = 592.416
3.5×13×13 = 591.5

I predict that the largest volume will be 3.3 times by n − 6.6 n being the length of side of the original square I think this because each number we do the one with only 3s in it always has the biggest volume.

We now know the largest volume has to be between 3.3 and 3.4

3.3×13.4×13.4 = 592.548
3.31×13.38×13.38 = 592.570764
3.32×13.36×13.36 = 592.585472
Largest double digit decimal volume → 3.33×13.34×13.34 = 592.592148
3.34×13.32×13.32 = 592.590816
3.35×13.3×13.3 = 592.5815

Yet again the largest volume is made by cutting out a square on the sides with a side length with only 3s in it. Therefore I conclude that the largest volume has to be $3.\dot{3}(n-6.\dot{6})^2$.