Notes on Dimensional Change

1. What is the Scale Factor?

* To Find the Scale Factor (SF) *new* (the transformed image)

old (the one you started with)

* Enlargement Scale Factor is greater than one (multiply)
* Reduction Scale Factor is less than one (divide by the denominator or find the decimal and multiply)

1. What are you trying to find?

* Perimeter use scale factor once (xSF)
* Area use scale factor twice (xSF xSF **or** SF2)
* Volume use scale factor three times (xSF xSF xSF **or** SF3)

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| --- | --- | --- | --- |
| Scale Factor | Effect on Perimeter | Effect on  Area | Effect on  Volume |
| x 2 | x 2 | x 2 x 2 **or** 22 =  x 4 | x 2 x 2 x 2 **or** 23 =  x 8 |
| x 3 | x 3 | x 3 x 3 **or** 32 =  x 9 | x 3 x 3 x 3 **or** 33 =  x 27 |
| x 4 | x 4 | x 4 x 4 **or** 42 =  x 16 | x 4 x 4 x 4 **or** 43 =  x 64 |
| x 5 | x 5 | x 5 x 5 **or** 52 =  x 25 | x 5 x 5 x 5 **or** 53 =  x 125 |