## Skyscraping

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## Problem

- How can we build the best possible Skyscraper?
- Strand Focus: Aesthetics
- Challenges:
- Making it Aesthetically pleasing to its
location
-Making sure all sections fit together on top
of each other


## Problem Solving Strategies <br> That Worked:

## Work

- Asking Mr. Whismore for help
-Giving each other help
- Using the internet for formulas
Steps we took:

1. Watched skyscraper video
2. Phase 1-A W/S
3. Phase 1-B W/S
4. Write-Up- Part 1
5. Have footprint checked off (on paper)

- DGO (didn't really affect what we did that day)

6. Put footprint on Autocad
7. Make footprint the actual size
8. Phase 2-A (writing down measurements)
9.Phase 3- calculations

## 2-D Footprints- $1^{\text {st }}$ level

- Shapes used:

Octagon, Triangle \& Circles

- Total Width: 300 FT Number Of Floors In Your Section: 50



## 2-D Footprints- $2^{\text {nd }}$ level

- Shapes used: Triangle, Octagon \& Circle
- Total Width: 175 FT Number Of Floors In Your Section: 50



## 2-D Footprints- $3^{\text {rd }}$ level

- Shapes used: Octagon, Isosceles Triangle \& Parallelogram
- Total Width: 100 FT
- Number Of Floors In Section: 50



## 2-D Footprints- $4^{\text {th }}$ level

- Shapes used: Triangle, Septigon \& Circle
- Total Width: 50 FT
- Number Of Floors In Your Section: 50



## Top View



## Volume

$4^{\text {th }}$ level $=240,000 \mathrm{ft}^{3}$

$3^{\text {rd }}$ level $=6,412,000 \mathrm{ft}^{3}$
$2^{\text {nd }}$ level $=49,264,000 \mathrm{ft}^{3}$
$1^{\text {st }}$ level $=135,091,200 \mathrm{ft}^{3}$

Total Volume $=190,767,200 \mathrm{ft}^{3}$

## Surface Area

$4^{\text {th }}$ level= Unknown

$\qquad$

$3^{\text {rd }}$ level $=846,100 \mathrm{ft}^{2}$
$2^{\text {nd }}$ level $=8,217,300 \mathrm{ft}^{2}$
$1^{\text {st }}$ level= $=86,591,696 \mathrm{ft}^{\text {t }}$


Total Surface Area with known width= 95,655,096 ft²

## Construction Cost

$1^{\text {st }}$ level area $15,669,000 \mathrm{ft}^{2}$
$2^{\text {nd }}$ level area $2,368,200 \mathrm{ft}^{2}$
$3^{\text {rd }}$ level area $320,600 \mathrm{ft}^{2}$
$+4^{\text {th }}$ level area $23,436 \mathrm{ft}^{2}$
Total area $18,381,236 \mathrm{ft}^{2}$

| Cost per ft ${ }^{2}$ |  |
| :---: | :---: |
| $\$ 3,287$ |  |
| 18,381,236 $\mathrm{ft}^{2}$ | Total Area |
| $\times \quad 3,287$ | Cost per ft ${ }^{2}$ |
| $\$ 60,419,000,000$ | Total Cost |

## Solution

Our building, located in Paris, is aesthetically pleasing because it has a unique pattern, radial symmetry, is tall, and has many purposes.

