Driving Question: *How do interior designers estimate cost of “finishing” permanent walls of a building?*

Your Task: Using the measurements from SketchUp for your composite footprint, determine the surface area for each floor. Then calculate the total surface area, multiplying the surface area for one floor by the number of floors that you have decided for your section. Once all group members have calculated the surface area for their sections, find the total surface area (TSA) of your skyscraper.

(Example)

***Draw an example of the shape.***

**20’**

***Copy the critical measurements from Height of floors:* 10’**

***Phase 2-b onto the figure.***

**30’**

***Include height of floors in the space indicated.***

|  |  |
| --- | --- |
| ***Name of Central geometric shape*** | **Regular Pentagon** |
| ***Surface area of Shape******(include Surface area formula)*** | $SA\_{base}=\frac{1}{2}nas×2$$SA\_{walls}=(30×5)×10$$SA\_{base}=\frac{3000}{2}×2$$SA\_{walls}=150×10$$SA\_{base}=3000 ft^{2}$$SA\_{walls}=1500 ft^{2}$$$TSA=3000+1500=4500 ft^{2}$$ |

***Shape #1***

***Draw an example of the shape.***

***Copy the critical measurements from Height of floors:***

***Phase 2-b onto the figure.***

***Include height of floors in the space indicated.***

|  |  |
| --- | --- |
| ***Name of Central geometric shape*** |  |
| ***Surface area of Shape******(include Surface area formula)*** |  |

***Shape #2***

***Draw an example of the shape.***

***Copy the critical measurements from Height of floors:***

***Phase 2-b onto the figure.***

***Include height of floors in the space indicated.***

|  |  |
| --- | --- |
| ***Name of geometric shape*** |  |
| ***Surface area of Shape******(include Surface area formula)*** |  |

***Shape #3***

***Draw an example of the shape.***

***Copy the critical measurements from Height of floors:***

***Phase 2-b onto the figure.***

***Include height of floors in the space indicated.***

|  |  |
| --- | --- |
| ***Name of geometric shape*** |  |
| ***Surface area of Shape******(include Surface area formula)*** |  |

***Total Surface area***

|  |  |
| --- | --- |
| ***Add: Surface area – Shape #1*** |  |
| ***Add: Surface area – Shape #2*** |
| ***Add: Surface area – Shape #3*** |
| ***Floor Surface area for your Section*** |
| ***Multiply: Number of Floors in your Section*** |
| ***Total Surface area (TSA) for your Section*** |
| ***Add: TSA for your group member’s Section*** |
| ***Add: TSA for your group member’s Section*** |
| ***Add: TSA for your group member’s Section*** |
| ***Total Surface area (TSA) of your Skyscraper*** |