|  |  |  |  |
| --- | --- | --- | --- |
| Test for cuboid calculator | Expected Result | Actual Result | Did it meet expectations? |
| Negative numbers | Error message pops up to say it needs to be positive. |  | Yes |
| Strings | Error message pops up saying that it needs to be a floating-point number. |  | Yes |
| Calculating volume and surface area correctly | If length = 10  Width = 20  Height = 30,  Volume should be 6000 and surface area should be 2200 |  | Yes |
|  | Gui will wrap numbers accordingly or switch to scientific notation. |  | No |
|  | Should round to scientific notation |  | No |
| Rounding | Rounds to 2 decimal places | Unrounded results would be:  Volume: 3586.60754  Surface Area:  1461.4696 | Yes |

Solution to handle extreme data inputs:

This is added under the calculate() function:

def format\_number(num):

if num > 1e6 or num < 1e-2:

return f”{num.2e}”

else:

return f”{num.2f}”

formatted\_volume = format\_number(volume)

formatted\_surface\_area = format\_number(surface\_area)

result\_label.config(text=f"Volume: {formatted\_volume}\nSurface Area: {formatted\_surface\_area}")

    except ValueError as e:

        messagebox.showerror("Input Error", str(e))