$$\mathbb{S}^{\wedge}_{mu}$$

Imagine maps:

$$\mathrm{Map}^G_*(A,B)$$
$$\mathrm{Map}^G_*(A,B)$$

where $A, B \in \mathsf{Top}^G_*$ (where Top is a suitable category).

If $X \in \mathsf{Top}_*$ and $Y \in \mathsf{Top}$, we can form the spectra:

$$\Sigma^\infty X, \Sigma^\infty_+ Y$$

and for a spectrum $Z \in \mathsf{Sp}$, we can form the pointed space:

$$\Omega^\infty Z$$

Theorem 1 (Pythagoras)**.** $a^2 + b^2 = c^2$.

Proof. Trivial $\square$

$\triangleleft$

Lemma 2 (Zorn's Lemma)**.** *An poset $P \in \mathsf{Poset}$ where all chains are bounded above has a maximal element.*

Proof. Axiom of choice. $\square$

$\triangleleft$

Proposition 3. *$\sqrt[3]{2}$ is not a rational number.*

Proof. Suppose it was. Then, there will be two integers $a, b \in \mathbb{Z}$ such that $a^3 + a^3 = b^3$. We will need the following:

Theorem 4 (Fermat's Last Theorem, due to Andrew Wiles)**.** *The equation $a^n + b^n = c^n$ has no integer solutions when $n \geq 3$.*

Proof. Trivial [Theorem 4] $\square$

$\triangleleft$

We see that $\sqrt[3]{2}$ being rational produces a contradiction to Fermat's Last Theorem. Therefore, it must be irrational. [Proposition 3] $\square$

$\triangleleft$

Remark 5 (Jordan curve theorem)**.** It happens

Proof. Duh $\square$

$\triangleleft$

$$\mathbb{S}, \mathcal{MU}, tmf, \mathcal{BP}, \mathcal{T}(n), \mathcal{K}(n), \mathcal{H}\mathbb{Z}, \mathcal{E}_n$$
$$S, MU, tmf, BP, T(n), K(n), H\mathbb{Z}, E_n$$

Claim 6. *When $z \in \mathbb{C}$, we have that:*

$$e^z = e^{\mathscr{Re}(z)}(\cos \mathscr{Im}(z) + i \sin \mathscr{Im}(z))$$

$\triangleleft$

$$\mathrm{K}(\mathbb{Z}) \quad K \quad K \quad (n) \quad \mathcal{K}(n - \mathrm{cork}_p(\mathcal{F})) \quad \mathcal{K}(n) \quad \mathrm{K}(\mathbb{Z}) \quad \mathcal{K}(\infty)$$

$\triangle$

Axiom (Axiom of Choice)**.** For any collection of non-empty sets $\mathcal{S}$, there exists a choice function $\phi : \mathcal{S} \to \bigcup_{s \in \mathcal{S}} s$, such that $\phi(s) \in s$. $\triangleleft$