What we're aiming at:

$$\sum_{i=1}^{n} (z_i)^3 \left\{ \int_{x=0,y=0}^{x=\pi/2,y=\pi/2} \sqrt{(x^2 + y^2)} \, f(x,y,z_i) \, \mathrm{d}x \, \mathrm{d}y \right\} = \frac{\mathcal{A}}{\mathcal{B}}.$$

Build it up piece-by-piece:

- First the right-hand-side:

  ```
  \frac{\mathcal{A}}{\mathcal{B}}.
  ```

  giving

  $$\frac{\mathcal{A}}{\mathcal{B}}.$$

- Next, the factors of the integral's kernel,

  ```
  \sqrt{(x^2 + y^2)}
  ```

  ```
  f(x,y,z_i).
  ```

  yielding

  $$\sqrt{(x^2 + y^2)} \qquad \text{and} \qquad f(x,y,z_i).$$

- Notice that the 'd' in the infinitesimals is an operator, not a variable, so `\mathrm{d}x`, and put the pieces together, with appropriate spacing:

  ```
  \sqrt{(x^2 + y^2)} \, f(x,y,z_i)\,\mathrm{d}x\,\mathrm{d}y.
  ```

  giving

  $$\sqrt{(x^2 + y^2)} \, f(x,y,z_i) \, \mathrm{d}x \, \mathrm{d}y.$$

- Finally, the integral with bounds and curly brackets,

  ```
  \left\{     \int_{x=0,y=0}^{x=\pi/2,y=\pi/2}    \right\}
  ```

  giving

  $$\left\{ \int_{x=0,y=0}^{x=\pi/2,y=\pi/2} \right\}$$

  and the sum:

```
\sum_{i=1}^{n} (z_i)^3.
```

yielding

$$\sum_{i=1}^{n} (z_i)^3.$$

Putting it all together, we have:

```
% -- notice the indented layout which helps us ‘‘debug’’ the equation :
\[
    \sum_{i=1}^{n} (z_i)^3
        \left\{
            \int_{x=0,y=0}^{x=\pi/2,y=\pi/2}
                \sqrt{(x^2 + y^2)} \,
                f(x,y,z_i)\,\mathrm{d}x\,\mathrm{d}y
        \right\}
%%
    = \frac{\mathcal{A}}{\mathcal{B}}
\]
```