Lesson Six: Sizing and Spacing

Sizing Text

We can use a variety of text sizes, as shown below.

tiny, scriptsize, footnotesize, small, normalsize, large, Large, LARGE, huge, Huge

Sizing Delimiters

The first equation below doesn't look quite right: the brackets aren't big enough. But we can have them sized automatically, as in the second version.

$$\sum_{k=1}^{n} k^3 = 1^3 + 2^3 + 3^3 + ... + n^3 = [\frac{n(n+1)}{2}]^2$$

$$\sum_{k=1}^{n} k^3 = 1^3 + 2^3 + 3^3 + ... + n^3 = \left[\frac{n(n+1)}{2}\right]^2$$

Similarly, compare the following.

$$\int_e^\pi \frac{dx}{x(\ln x)^2} = -\frac{1}{\ln x}|_e^\pi$$

$$\int_e^\pi \frac{dx}{x(\ln x)^2} = -\left.\frac{1}{\ln x}\right|_e^\pi$$

Spacing

We can use fixed spacing commands: $xx\,x\,x\,x\quad x\qquad x$.

Items can be spaced uniformly.

Or, we can set our own spacing:

Dude, you are so spaced.

Exercise Six: Sizing and Spacing

A geometric progression: 1 2 4 8

[`Each space in the above should be double the previous.`]

Suppose $y = \sqrt[3]{x}$. Then, the derivative of y with respect to x at $x = 64$ is written in Leibniz notation as

$$\left.\frac{dy}{dx}\right|_{x=64} = \left.\frac{1}{3x^{2/3}}\right|_{x=64} = \frac{1}{48}$$

A set that's bounded below but has no smallest element is

$$\left\{1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \dots\right\} = \left\{\frac{1}{n} \;\middle|\; n \in \mathbb{N}\right\}$$

Did you know that $\lim_{n\to\infty} \left(1 + \frac{1}{26n}\right)^{13n} = \sqrt{e}$? Well, it does.

Some colleges we know are Colby, Bowdoin, and Bates.