Contents

My First LaTeX Document

Your Name

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Hello! This is my LaTeX document.

A rectangle has side length of $(x+1)$ and area of $(x+3)$. The equation $A(x) = x^2 + 2x + 1$ is the area of the rectangle.

superscripts

$$2x^3$$

$$2x^{34}$$

$$2x^{3x+4}$$

$$2x^{3x^4+5}$$

subscripts

$$x_1$$

$$x_{12}$$

$$x_{1_2}$$

$$a_o, a_1, a_2, \ldots, a_{100}$$

greek letters

$$\pi$$

$$\Pi$$

$$\alpha$$

$$A = \pi r^2$$

trig functions

$$y = \sin x$$

$$y = \cos x$$

$$y = \tan x$$

$$y = \csc \theta$$

$$y = \sin^{-1} x$$

$$y = \arcsin x$$

log functions

$$y = \log x$$

$$y = \log_5 x$$

$$y = \ln x$$

roots

$$\sqrt{2}$$

$$\sqrt[3]{2}$$

$$\sqrt{x^2 + y^2}$$

$$\sqrt{1 + \sqrt{x}}$$

fractions

$$\frac{\dfrac{2}{3}}{x}$$

$$\frac{x}{x^2 + x + 1}$$

$$\frac{\sqrt{x+1}}{\sqrt{x-1}}$$

About $\frac{2}{3}$ of the glass is full.

About $\frac{2}{3}$ of the glass is full.

The distributive law

$$a(b + c) = ab + ac$$

for all $a, b, c \in \mathbb{R}$.

The equivalence class of a is $[a]$.

The set A is defined to be $[\{1, 2, 3\}]$

The movie ticker cost \$11.50 dollars.

$$2 \left(\frac{1}{x^2 - 1} \right)$$

$$2 \left[\frac{1}{x^2 - 1} \right]$$

$$2 \left\{ \frac{1}{x^2 - 1} \right\}$$

$$2 \left\langle \frac{1}{x^2 - 1} \right\rangle$$

$$\left. \frac{dy}{dx} \right|_{x=1}$$

tables

x	1	2	3	4	5
$f(x)$	2	4	6	8	10

x	1	2	3	4	5
$f(x)$	$frac12$	4	6	8	10

Table 1: A table of values for $f(x) = 2x$

Table 2: The relationship between $f(x)$ and $f'(x)$

$f(x)$	$f'(x)$
$x > 0$	The function $f(x)$ is increasing. The function $f(x)$ is increasing. The function $f(x)$ is increasing. The function $f(x)$ is increasing.

arrays

$$5x^2 - 9 = x + 3 \text{ place your words here} \tag{1}$$
$$5x^2 - 9 - x - 3 = 0 \tag{2}$$
$$= 12 + x - 5x^2 \tag{3}$$

$$5x^2 - 9 = x + 3 \text{ place your words here}$$
$$5x^2 - 9 - x - 3 = 0$$
$$= 12 + x - 5x^2$$

lists

1. First item
2. Second item
3. Third item

- First item
    1. First subitem
    2. Second subitem
    3. Third subitem
- Second item
- Third item

A. First item
B. Second item
C. Third item

6. First item
7. Second item
8. Third item

- First item

    First subitem

a) Second subitem

  Third subitem

  * First subsubitem
  * Second subsubitem
  * Third subsubitem

- Second item

- Third item

This is a **bold** word.
This is a *italic* word.
This is a <u>underlined</u> word.
This is a `typewriter` word.
This is a SMALL CAPS word.
This is a ***bold italic*** word.

This is a large word.
This is a Large word.
This is a huge word.
This is a Huge word.
This is a Normal word.
This is a small word.
This is a Script Size word.
This is a tiny word.

<div align="center">This is centered text.</div>

This is left-aligned text.

<div align="right">This is right-aligned text.</div>

Visit `http://www.google.com` for more information.
Visit Google for more information.

1 First Section

1.1 First Subsection

1.1.1 First Subsubsection

1.2 Second Subsubsection

2 Second Section

2.1 First Subsection

First Subsubsection
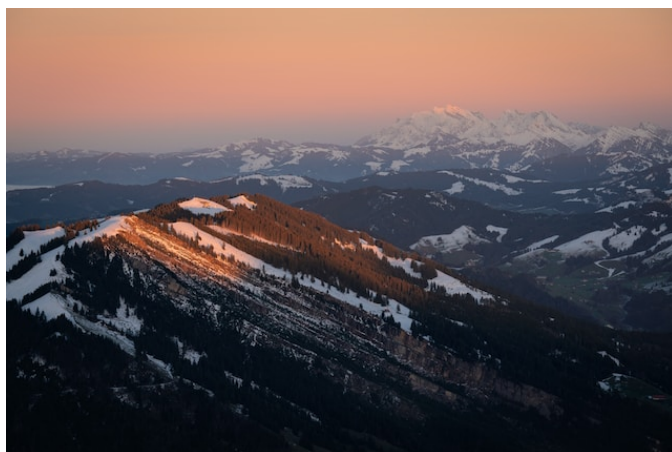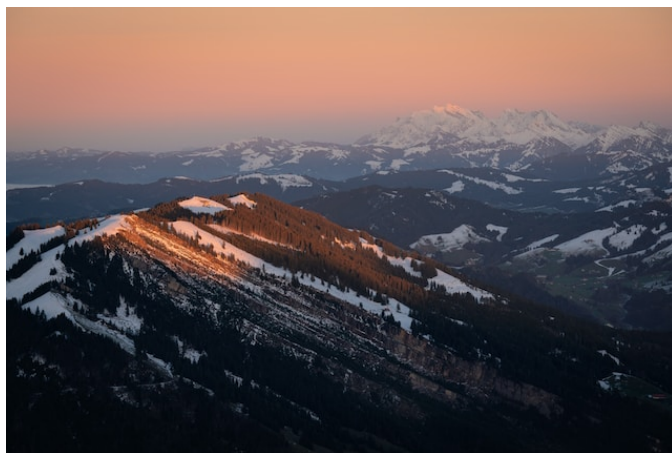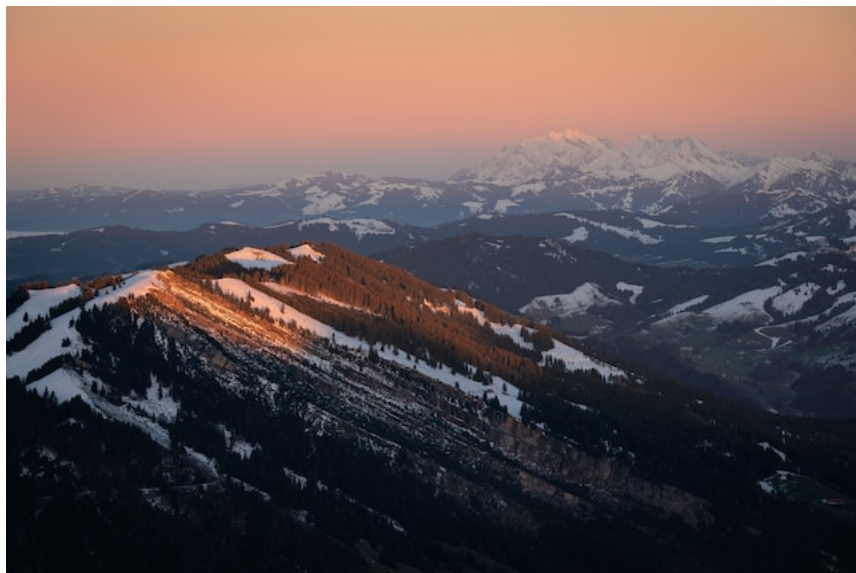
macros
$y = \frac{x}{x^2+1}$

Figure 1: This is a caption.

calculus notation

The function $f(x) = (x-3)^2 + \frac{1}{2}$ has a domain of $\mathrm{D}_f : (-\infty, \infty)$ and the range of $\mathrm{R}_f : \left[\frac{1}{2}, \infty\right)$.

$$\lim_{x \to a^-}$$

$$\lim_{x \to a} \frac{f(x-a)}{x-a} = f'(a)$$

$$\int \sin x \, dx = -\cos x + C$$

$$\int_a^b f(x) \, dx = F(b) - F(a)$$

$$\int_a^b f(x) \, dx = \lim_{n \to \infty} \sum_{n=1}^{\infty} f(x_i^*)\Delta x$$

$$\vec{v} = v_1 \vec{i} + v_2 \vec{j} = \langle v_1, v_2 \rangle$$