

# A Fun Template

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## Contents

<b>1</b>	<b>Force</b>	<b>2</b>
1.1	Newton's Laws of Motion . . . . .	2
<b>A</b>	<b>Bonus Material</b>	<b>3</b>

## Conventions

$\mathbb{F}$  denotes either  $\mathbb{R}$  or  $\mathbb{C}$ .

$\mathbb{N}$  denotes the set  $\{1, 2, 3, \dots\}$  of natural numbers (excluding 0).

# 1 Force

**Definition 1.1.** The **centre of gravity** of an object is the point at which the weight of the object *appears* to act.

## 1.1 Newton's Laws of Motion

**Definition 1.2.** The following are Newton's 3 laws:

1. A body **stays at rest** or **continues to move with a constant speed** in a *straight* line unless acted upon by a **net** external force.
2. The **rate of change of linear momentum** of a body is **directly proportional** to the **resultant force** acting on it and is in the direction of the resultant force.
- 3.

# A Bonus Material

The `\talign` and `\talign*` environments work like the `\align` and `\align*` environments, except they render equations in inline size. For example, `\begin{align*}...\end{align*}` yields:

$$\sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6}$$

While `\begin{talign*}...\end{talign*}` yields:

$$\sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6}$$

As usual, the purpose of `*` is to prevent numbering of the equation.

Some commands, like `\sumn`, can be used with or without a starting value (the default starting value is 1). For example, `$$\sumn\frac{1}{n^2}$$` yields  $\sum_{n=1}^{\infty} \frac{1}{n^2}$ , while `$$\sumn[69]\frac{1}{n^2}$$` yields  $\sum_{n=69}^{\infty} \frac{1}{n^2}$ . This can be used in inline mode as well as display mode.