

# A sample L<sup>A</sup>T<sub>E</sub>X document

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# Chapter 1

## Exercise Sheet One

### 1.1 Some text

#### 1.1.1 Spacing and paragraphs

Here begins my first L<sup>A</sup>T<sub>E</sub>X document. I never need to worry again about hitting the space bar twice in succession.

Leaving a blank line starts a new paragraph.

Calculate 30% of \$60 & tell the chairman.

#### 1.1.2 Font changing

The `kitten` raised its fur and *hissed* at the **Alsatian**.

### 1.2 Some maths

If  $x$ ,  $y$ ,  $z$ , and  $n$  are positive integers and

$$x^n + y^n = z^n,$$

then  $n$  is either 1 or 2.

$$n! \sim n^{n+\frac{1}{2}} e^{-n} \sqrt{2\pi} \text{ as } n \rightarrow \infty$$

$$\frac{n!}{n^{n+\frac{1}{2}} e^{-n} \sqrt{2\pi}} \rightarrow 1 \text{ as } n \rightarrow \infty.$$

$$\exp(i\theta) = \cos \theta + i \sin \theta.$$

$$W_\lambda^\alpha \rightarrow W_\lambda^\alpha + \delta W_\lambda^\alpha \equiv W_\lambda^\alpha + D_\lambda^{\alpha\beta} \omega^\beta.$$

$$\int_C f(z) dz = 2\pi i \sum_{\text{poles } z} R_z.$$

$$a_n = \frac{1}{2\pi} \int_0^{2\pi} \frac{f(z_0 + re^{i\theta})}{r^{n+1} e^{i(n+1)\theta}} i r e^{i\theta} d\theta.$$

$$1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \dots}}} = \frac{1 + \sqrt{5}}{2}.$$