

Test Document for `camel.sty`

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This is a test document for the `camel.sty` package. The latest version can be found at
<https://github.com/cardiffmaths/latex/camel>

1 Theorems

Theorem 1

This is the statement of the theorem.

Proof: This is a proof of the theorem.
Let's give it a few lines.
Like this one.

The visibility of `proof` environments is controlled by the following package options.

<code>proofs</code>	print contents (default)
<code>blankproofs</code>	print blank box
<code>noproofs</code>	print nothing

1.1 Examples

The `example` theorem type is defined in the preamble.

Example 2

The integral of $f(x) = x$ over the interval $[0, 1]$ is

$$\int_0^1 x \, dx = \left[\frac{x^2}{2} \right]_0^1 = \frac{1}{2}$$

Examples can have **solutions**.

Example 3

Find the integral of $f(x) = x$ over the interval $[0, 1]$.

Solution: $f(x)$ is bounded over $[0, 1]$ so

$$\int_0^1 x \, dx = \left[\frac{x^2}{2} \right]_0^1 = \frac{1}{2}$$

The visibility of **solution** environments is controlled by the following package options.

solutions	print contents (default)
blanksolutions	print blank box
nosolutions	print nothing

The same result be achieved using the **blankbox** environment, but without the heading.

Example 4

Find the integral of $f(x) = x$ over the interval $[0, 1]$.

$f(x)$ is bounded over $[0, 1]$ so

$$\int_0^1 x \, dx = \left[\frac{x^2}{2} \right]_0^1 = \frac{1}{2}$$

The visibility of **blankbox** environments is controlled by the following package options.

noblanktext	print contents (default)
blanktext	print blank box

1.2 Exercises and quizzes

The **exercise** and **quiz** theorem types are defined the preamble.

Exercise 5

This is an exercise.

Quiz 6

This is a quiz.

These serve as containers for various types of question (see below).

2 Question types (copied from exam.cls)

\ans commands and **answer** environments can be inserted anywhere. Their visibility is controlled by the following package options.

answers	print contents (default)
blankanswers	print blank box
noanswers	print nothing

Here is an answer (it might not be visible):

Answer: Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

We can force answers to be included using `\answerson ... \endanswerson`. The following answer will always be included.

Answer: This is always included

We can force answers to be excluded using `\answersoff ... \endanswersoff`. The following answer will never be included.

2.1 Questions, parts and subparts

Here is an exercise containing a `questions` environment, which itself contains a `parts` environment.

Exercise 7

1. First question.

(a) First part.

Answer: Answer to the first part.

(b) Second part.

(i) First subpart.

Answer: Answer to the first subpart.

(ii) Second subpart.

Answer: Answer to the second subpart.

2. Second question.

Answer: Answer to the second question.

2.2 Multiple choice and multiple answer questions

The following quiz has two multiple choice questions (`choices`), two multiple answer questions (`checkboxes`) questions, and a free-text question (default).

Quiz 8

1. Necessity is the mother of invention.

- ☒ **True**
☐ False

2. In what year did Columbus first cross the Atlantic?

- ☐ 1490
☐ 1491
☒ **1492**
☐ 1493

Answer: In 1492, Columbus sailed the ocean blue.

3. Which of the following series converge?

- ☐ $\sum_{n=1}^{\infty} \frac{1}{n}$
☒ $\sum_{n=1}^{\infty} \frac{1}{n^2}$
☒ $\sum_{n=1}^{\infty} \frac{1}{n^4}$

Answer:

- $\sum_{n=1}^{\infty} \frac{1}{n}$ diverges (this is the harmonic series).
- $\sum_{n=1}^{\infty} \frac{1}{n^2} = \pi^2/6$.
- $\sum_{n=1}^{\infty} \frac{1}{n^4} = \pi^4/90$.

4. Write a short essay on a topic of your choice.

Answer: Anything sensible will do.

3 Blanks

Here is a `blankbox` command. This is controlled by the `blanktext` option. There is an issue with indentation here.

Can you see me?
Another line here.
And another.

Then we move on.

4 Figures

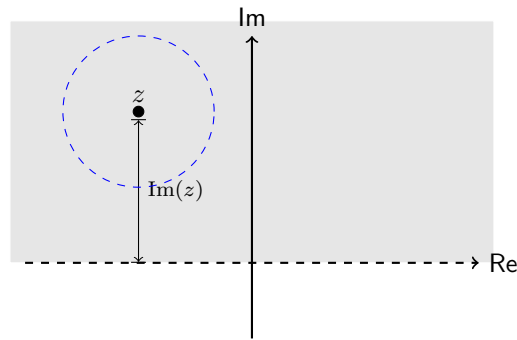
Example 9

The upper half plane H_+ defined by

$$H_+ := \{z \in \mathbb{C} : \Im(z) > 0\}$$

is an open set.

Solution: We shall show that for any $z \in H_+$, we can find an open disc centred at z that is entirely contained in H_+ .



There we are.

An incomplete image can be printed in the student version, and a complete image in the full version.

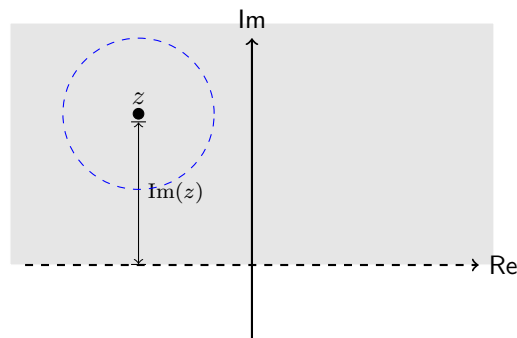
Example 10

The upper half plane H_+ defined by

$$H_+ := \{z \in \mathbb{C} : \Im(z) > 0\}$$

is an open set.

Solution:



We have shown that for every $z \in H_+$, there is an open disc centred at z that is entirely contained in H_+ . Observe that the picture is now smaller.

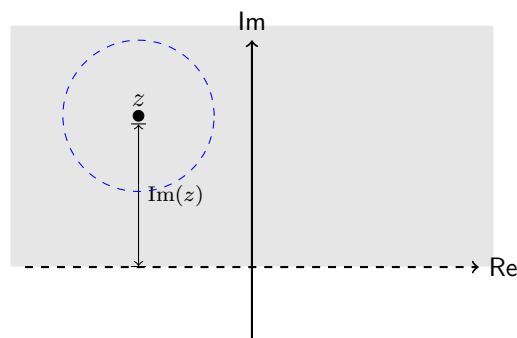
It is not necessary to use the example–solution format to achieve this, as Example 11 shows.

Example 11

The upper half plane H_+ defined by

$$H_+ := \{z \in \mathbb{C} : \Im(z) > 0\}$$

is an open set.



We have shown that for every $z \in H_+$, there is an open disc centred at z that is entirely contained in H_+ . Observe that the picture is now smaller.

Then we move on.

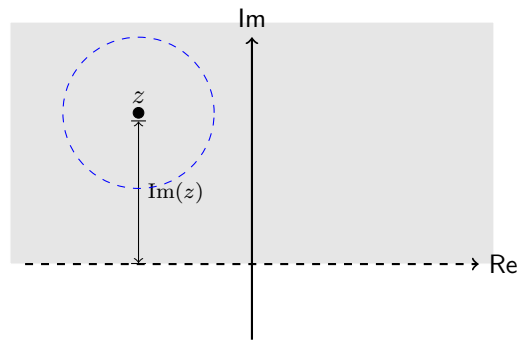
Still it might be better to use a `blankbox` environment instead of the `\blankson` and `\blanksoff` commands, so that students are clear that there is something for them to complete here. It also makes it possible to change the font colour to make it clear what appears in the full version and not in the student version. For example,

Example 12

The upper half plane H_+ defined by

$$H_+ := \{z \in \mathbb{C} : \Im(z) > 0\}$$

is an open set.



We have shown that for every $z \in H_+$, there is an open disc centred at z that is entirely contained in H_+ . Observe that the picture is now smaller.

Then we move on.