Title

Author

Hello world!

Theorem 1. This is a great result. It has an equation:

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

The equation number is (1).

PROOF SKETCH. This is the proof sketch of Theorem 1.

1. SECTION WITHOUT THEOREMS

Since this section does not have any appendix content, it will not appear in the appendix. [1]

2. SECTION WITH SOME APPENDIX CONTENT

Example 2.1. Examples are numbered within a section.

Not much in the main text.

3. SECTION WITH THEOREMS (LONG)

Theorem 2. Another great result.

PROOF SKETCH. Proof sketch of Theorem 2. \square

Theorem 3. Another great result, without any proof sketch.

Theorem 4. A regular theorem, not repeated.

Proof. This regular theorem is naturally followed with an inline proof. $\hfill\Box$

Theorem 5. A repeated theorem, but with two proofs, one in Appendix and one in main text.

Proof. Main text proof of Theorem 5. \square

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4. LAST SECTION

Theorem 6 (with note). Another theorem.

Theorem 7. Last theorem, not repeated.

PROOF. Proof, inlined.

REFERENCES

5. REFERENCES

[1] Sergey Brin and Lawrence Page. The anatomy of a large-scale hypertextual Web search engine. *Computer Networks*, 30(1–7):107–117, April 1998.

[2] sitemaps.org. Sitemaps XML format. http://www.sitemaps.org/protocol.php, February 2008.

APPENDIX

Theorem 1. This is a great result. It has an equation:



PROOF. This is the proof of Theorem 1. \Box

A. Material for SECTION WITH SOME APPENDIX CONTENT (Section 2)

Hello appendix!

B. Material for SECTION WITH THEOREMS (LONG) (Section 3)

Theorem 2. Another great result.	
PROOF. Proof of Theorem 2. For some reason, this proof has an inline Lemma:	
Lemma 8. This is the lemma (numbered following the theorem numbering).	
PROOF. And this lemma has a proof as well!	
This concludes the global proof of Theorem 2.	
Theorem 3. Another great result, without any proof sketch.	
PROOF. Proof of Theorem 3. It has two references [2, 1].	
Theorem 5. A repeated theorem, but with two proofs, one in Appendix and one in main text.	
PROOF. Appendix proof of Theorem 5.	
And now for no particular reason, two isolated proofs in the appendix, written in two different ways:	
PROOF PROOF OF A NON-EXISTING RESULT. First with a regular proof environment inside a toappendix environment.	
PROOF. Second, with the specific appendixproof environment (but then, cannot change the proof name).	

C. Material for LAST SECTION (Section 4)

Theorem 6 (with note). Another theorem.

This theorem does not have a proof, but a discussion in the appendix. apxproof can figure, because of the theorem environment that follows, that the proof of the following theorem is not a proof of this theorem.