

Papers and Reports

Taken From:

Undergraduate Guide to Writing Mathematics

Stephen B. Maurer

Introduction

- Assignments/Homework/ Exams (inclass and take home)

Introduction

- Assignments/Homework/ Exams (inclass and take home)
- Short two page Essays

Introduction

- Assignments/Homework/ Exams (inclass and take home)
- Short two page Essays
- Project Reports: Expository articles

Introduction

- Assignments/Homework/ Exams (inclass and take home)
- Short two page Essays
- Project Reports: Expository articles
- Research paper, books

General Advice on Writing Papers

General Advice on Writing Papers

- Should you write on a computer ?

General Advice on Writing Papers

- Should you write on a computer ?

Word Processor: Tedious

General Advice on Writing Papers

- Should you write on a computer ?

Word Processor: Tedious

Latex: Time consuming initially to learn

General Advice on Writing Papers

- Should you write on a computer ?

Word Processor: Tedious

Latex: Time consuming initially to learn

Hand: if you cannot do above easily

General Advice on Writing Papers

- Should you write on a computer ?

Word Processor: Tedious

Latex: Time consuming initially to learn

Hand: if you cannot do above easily

Practice Latex till it becomes easy

General Advice on Writing Papers

- Start Early

General Advice on Writing Papers

- **Start Early**

Takes three times longer than you think. Actual time is three times longer than that!

General Advice on Writing Papers

- Start Early

Takes three times longer than you think. Actual time is three times longer than that!

- How to Make Yourself Start ?

General Advice on Writing Papers

- Start Early

Takes three times longer than you think. Actual time is three times longer than that!

- How to Make Yourself Start ?

Start with Something easy

General Advice on Writing Papers

- Start Early

Takes three times longer than you think. Actual time is three times longer than that!

- How to Make Yourself Start ?

Start with Something easy

Make a rough outline

General Advice on Writing Papers

- **Start Early**

Takes three times longer than you think. Actual time is three times longer than that!

- **How to Make Yourself Start ?**

Start with Something easy

Make a rough outline

Write the first draft: no finishing touches

General Advice on Writing Papers

- **Start Early**

Takes three times longer than you think. Actual time is three times longer than that!

- **How to Make Yourself Start ?**

Start with Something easy

Make a rough outline

Write the first draft: no finishing touches

Once main part is finished: clean

General Advice on Writing Papers

- **Start Early**

Takes three times longer than you think. Actual time is three times longer than that!

- **How to Make Yourself Start ?**

Start with Something easy

Make a rough outline

Write the first draft: no finishing touches

Once main part is finished: clean

Later: finish the entire paper

General Advice on Writing Papers

- **Start Early**

Takes three times longer than you think. Actual time is three times longer than that!

- **How to Make Yourself Start ?**

Start with Something easy

Make a rough outline

Write the first draft: no finishing touches

Once main part is finished: clean

Later: finish the entire paper

Clean the entire article: write in fair if hand written

General Advice on Writing Papers

- Know Your audience

General Advice on Writing Papers

- Know Your audience

Who are you writing for ?

General Advice on Writing Papers

- Know Your audience

Who are you writing for ?

Perhaps a person, one course behind you

General Advice on Writing Papers

- **Know Your audience**

Who are you writing for ?

Perhaps a person, one course behind you

Motivation

General Advice on Writing Papers

- **Know Your audience**

Who are you writing for ?

Perhaps a person, one course behind you

Motivation

Why is this important ?

General Advice on Writing Papers

- **Know Your audience**

Who are you writing for ?

Perhaps a person, one course behind you

Motivation

Why is this important ?

How will the reader use my paper ?

General Advice on Writing Papers

- **Know Your audience**

Who are you writing for ?

Perhaps a person, one course behind you

Motivation

Why is this important ?

How will the reader use my paper ?

Learn

General Advice on Writing Papers

- **Know Your audience**

Who are you writing for ?

Perhaps a person, one course behind you

Motivation

Why is this important ?

How will the reader use my paper ?

Learn

Key things need to be marked and numbered

General Advice on Writing Papers

- **Know Your audience**

Who are you writing for ?

Perhaps a person, one course behind you

Motivation

Why is this important ?

How will the reader use my paper ?

Learn

Key things need to be marked and numbered

Definitions, Theorem, Proofs need to be highlighted.

General Advice on Writing Papers

- **Know Your audience**

Who are you writing for ?

Perhaps a person, one course behind you

Motivation

Why is this important ?

How will the reader use my paper ?

Learn

Key things need to be marked and numbered

Definitions, Theorem, Proofs need to be highlighted.

Reader perhaps will need to read the article twice before concept sinks in

General Advice on Writing Papers

- Set a Clear Objective

General Advice on Writing Papers

- Set a Clear Objective

Dont cover too much; Plan on Little

General Advice on Writing Papers

- Set a Clear Objective

Dont cover too much; Plan on Little

Should include goal of conveying meaning.

General Advice on Writing Papers

- Set a Clear Objective

Dont cover too much; Plan on Little

Should include goal of conveying meaning.

***Do not:* just show computations or say all you know in your subject**

General Advice on Writing Papers

- Set a Clear Objective

Dont cover too much; Plan on Little

Should include goal of conveying meaning.

***Do not:* just show computations or say all you know in your subject**

- Make the Material your own

General Advice on Writing Papers

- Set a Clear Objective

Dont cover too much; Plan on Little

Should include goal of conveying meaning.

***Do not:* just show computations or say all you know in your subject**

- Make the Material your own

Clear Objective \leftarrow Clear Thought \Leftrightarrow Your own material

General Advice on Writing Papers

- Set a Clear Objective

Dont cover too much; Plan on Little

Should include goal of conveying meaning.

***Do not:* just show computations or say all you know in your subject**

- Make the Material your own

Clear Objective \leftarrow Clear Thought \Leftrightarrow Your own material

Start with what others have written, work it out so that you can say it in your own way of thinking. Rewrite.

General Advice on Writing Papers

- Set a Clear Objective

Dont cover too much; Plan on Little

Should include goal of conveying meaning.

***Do not:* just show computations or say all you know in your subject**

- Make the Material your own

Clear Objective \leftarrow Clear Thought \Leftrightarrow Your own material

Start with what others have written, work it out so that you can say it in your own way of thinking. Rewrite.

***Good Test:* Try explaining to someone else.**

General Advice on Writing Papers

- Write a Strong Beginning

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

Even if audience is captive: better if they are motivated.

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

Even if audience is captive: better if they are motivated.

Keys:

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

Even if audience is captive: better if they are motivated.

Keys:

Title: Catchy and Informative

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

Even if audience is captive: better if they are motivated.

Keys:

Title: Catchy and Informative

Introduction

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

Even if audience is captive: better if they are motivated.

Keys:

Title: Catchy and Informative

Introduction

- What not to write

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

Even if audience is captive: better if they are motivated.

Keys:

Title: Catchy and Informative

Introduction

- What not to write

story without mathematics

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

Even if audience is captive: better if they are motivated.

Keys:

Title: Catchy and Informative

Introduction

- What not to write

story without mathematics

Creativity at the cost of mathematics

General Advice on Writing Papers

- Write a Strong Beginning

Maths is hard to read.

Even if audience is captive: better if they are motivated.

Keys:

Title: Catchy and Informative

Introduction

- What not to write

story without mathematics

Creativity at the cost of mathematics

Do it only when you know the concept inside out.

General Advice on Writing Papers

- How to Find What You Need to Know

General Advice on Writing Papers

- How to Find What You Need to Know
Library Catalogue using key words

General Advice on Writing Papers

- How to Find What You Need to Know

Library Catalogue using key words

MathScinet: www.ams.org/mathscinet

General Advice on Writing Papers

- **How to Find What You Need to Know**

Library Catalogue using key words

MathScinet: www.ams.org/mathscinet

Mathematical Reviews: Classification numbers, article reviews, citation Index

General Advice on Writing Papers

- **How to Find What You Need to Know**

Library Catalogue using key words

MathScinet: www.ams.org/mathscinet

Mathematical Reviews: Classification numbers, article reviews, citation Index

Faculty at various departments

General Advice on Writing Papers

- **How to Find What You Need to Know**

Library Catalogue using key words

MathScinet: www.ams.org/mathscinet

Mathematical Reviews: Classification numbers, article reviews, citation Index

Faculty at various departments

Internet: skeptical search, newsgroups

General Advice on Writing Papers

- Exposition

General Advice on Writing Papers

- Exposition

Develop ideas Chronologically

Don't put the cart before the horse

General Advice on Writing Papers

- Exposition

Develop ideas Chronologically

Don't put the cart before the horse

Mathematically complete proofs

General Advice on Writing Papers

- **Exposition**

Develop ideas Chronologically

Don't put the cart before the horse

Mathematically complete proofs

Give a number of Examples

General Advice on Writing Papers

- **Exposition**

Develop ideas Chronologically

Don't put the cart before the horse

Mathematically complete proofs

Give a number of Examples

Do not make: **loose statements, imprecise remarks, erroneous conclusions**

Get a rough draft checked with me.