

# Problem Set X

Your name

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## 1 Problem 1

Write your solution here! This is all “text.”

If you want to write some “math,” which you’ll probably want to in a discrete math course, you’ll use dollar signs to enter and exit “math” mode. Like this:  $\sigma = x + y$ . Notice how  $x$  and  $y$  are different from just writing  $x$  and  $y$ .

This paragraph starts 3 lines later.

“Okay, but our solution includes exponents or fancy subscripts and stuff like that.” I’m telling you, they’re not that fancy. Just do this:  $x^2$  for superscripts and  $y_i$  for subscripts.

TA, it doesn’t work! Our exponent’s all messed up when I write  $x^{128}$ . Don’t panic. Use squiggly brackets for things with more than one character or digit:  $x^{128}$  and  $y_{i,j}$ . Name’s John by the way, not TA.

What if we want one of those formulas that appear in the middle of the page. You know, for emphasis, or dramatic effect, or whatever. Okay, there’s another way to enter math mode.

$$\sum_{i=1}^n i = \frac{i(i+1)}{2}$$

## **2 Problem 2: Wait this problem has multiple parts!**

### **2.1 Part a**

Your writeup for part a here.

### **2.2 Part b**

Your writeup for part b here.

### **2.3 More ways to handle multiple parts**

We can do it with lists.

1. Part a
2. Part b
3. Part c

Another type of list:

- (a) Part a
- (b) Part b
- (c) Part c

### 3 Problem 3

“I drew this very nice picture that shows my thinking process for a problem. I scanned it and everything, but I don’t know how to stick it into my Latex document.”

First you have to upload the image file from your computer using the upload link in the file-tree menu. Then use the `includegraphics` command to include it in your document. Use the `figure` environment and the `caption` command to add a number and a caption to your figure.

$P$	$Q$	$P \implies Q$
0	0	1
0	1	1
1	0	0
1	1	1

Table 1: A truth table for  $P \implies Q$ .

#### 4 Problem 4: Now he's asking us to build a table?!

Yeah, you might be asked to build a truth table once or twice. I'm going to show you how to do it in Latex, but you might have to figure out what's what. Here's the table for  $P \implies Q$ .

## 5 Problem 5

Maybe I'll do something in this section for discussion.

*Emphasizing something right here. Italic text.*

$\phi$

ABCZ

$\sum_{i=1}^n$

$$\sum_{i=1}^n i = \frac{i(i+1)}{2}$$

$\log n$  vs  $\log n$

$\mathbb{B} = \{0, 1\}$

$1 \in \mathbb{B}$

$\{0\} \subseteq \mathbb{B}$

$\neg b$

$x \wedge y$  vs  $x \vee y$

$\overline{PQ}$