

My L^AT_EX Document

(Your Name Here)

August 9, 2015



(Your Photo Here)

1 Introduction

1.1 About Me

In this paragraph, describe something interesting that you did this summer. Be specific. I would rather you describe one thing in detail than several things in general.

1.2 Interests & Hobbies

- **Thing 1** Describe an interest or hobby.
- **Thing 2** Describe an interest or hobby.
 - Include a bulleted list at least two levels deep (this is a second-level bullet).
 - * This is a third-level bullet.
 - * This is a third-level bullet.
 - This is a second-level bullet.
 - * This is a third-level bullet.
 - * This is a third-level bullet.

1.3 Math Quotes

1. *Your favorite math quote here.* - Author
2. *Another favorite math quote here.* - Author

2 Mathematics

2.1 Mathematics and Me

Describe your mathematics goals for this year.

2.2 Mathematical Notation

In this section we will practice typesetting mathematical expressions. Typeset **everything below, including all text**, just as you see it.

1. Functions

- (a) The equation $f(x) = a_0 + a_1x + a_2x^2$ represents a polynomial function.
- (b) The equation $g(x) = a\sqrt[3]{bx + c}$ represents a radical function.
- (c) The equation $h(x) = \left| \frac{x+1}{3} \right|$ represents an absolute value function.
- (d) The equation $j(x) = \left| \frac{x+1}{3} \right|$ represents an absolute value function.
- (e) The equation $k(x) = 3 \log_2 x$ represents a logarithmic function.
- (f) The function $m(x) = x^2 - \frac{2}{5}$ has domain: $(-\infty, \infty)$ and range: $[-\frac{2}{5}, \infty)$.
- (g) $A = \left\{ 3, \frac{3}{2}, \frac{3}{4}, \frac{3}{8}, \dots \right\}$ represents a geometric sequence.

2. Formulas

- (a) the quadratic formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- (b) volume of a sphere:

$$V = \frac{4}{3}\pi r^3$$

- (c) Pythagorean identity:

$$\sin^2 x + \cos^2 x = 1$$

- (d) definition of the derivative:

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

- (e) average value:

$$\frac{1}{b-a} \int_a^b f'(x) dx = \frac{f(b) - f(a)}{b-a}$$

3. Tables and equation arrays

(a)

x	5	7	9	11
$f(x)$	25	49	81	121

(b)

$$4x^2 - 4x + 1 = 0 \tag{1}$$

$$(2x - 1)^2 = 0 \tag{2}$$

$$2x - 1 = 0 \tag{3}$$

$$x = \frac{1}{2} \tag{4}$$