

# Don't Know What To Name This

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# 1 For Forever

Dear Evan Hansen, today is going to be a great day and here is why.  
You can *lean* on me! You can **count** on me

## 1.1 All we see is light, for forever

Excited for Hamilton Tour in 2022.

### 1.1.1 Small is **big**

What's cookin'

What to do when you feel hungry

**Time to eat out!** Have not had a chance in so long.

## 2 Math Equations

$$f(x) = x^2$$

$$1 + 2 = 3$$

$$1 = 3 - 2$$

trying out alignment “=”

$$f(x) = x^2$$

$$1 + 2 = 3$$

$$1 = 3 - 2$$

LOL I don't quite like how this looks.

trying out alignment “2”

$$1+2 = 3$$

$$1 = 3-2$$

This is a bit funky.

some simple LaTeX math functions

$$\begin{aligned}f(x) &= x^2 \\g(x) &= \frac{1}{x} \\y(x) &= \left(\frac{1}{\sqrt{x}}\right) \\F(x) &= \int_b^a \frac{1}{3}x^3\end{aligned}$$

more sophisticated functions can happen by combining various commands

trying out matrices

matrices inside parentheses

$$A = \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{pmatrix}$$

matrices without brackets

$$\begin{array}{ccc}a_{11} & a_{12} & a_{13} \\a_{21} & a_{22} & a_{23} \\a_{31} & a_{32} & a_{33}\end{array}$$

matrices have to happen within the equation environment

$$\begin{array}{cc}1 & 0 \\0 & 1\end{array}$$

some more varieties

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$

Here are examples with matrix 2x2 with `pmatrix`, `bmatrix`, `vmatrix`, `Vmatrix` environments:

$$\begin{matrix} a & b \\ c & d \end{matrix} \quad \begin{pmatrix} a & b \\ c & d \end{pmatrix} \quad \begin{bmatrix} a & b \\ c & d \end{bmatrix} \quad \begin{vmatrix} a & b \\ c & d \end{vmatrix} \quad \left\| \begin{matrix} a & b \\ c & d \end{matrix} \right\|$$

**Small matrix environment** For more, refer to <https://www.math-linux.com/latex-26/faq/latex-faq/article/how-to-write-matrices-in-latex-matrix-pmatrix-bmatrix-vmatrix-vmatrix>

I love small matrices such as  $\begin{pmatrix} a & b \\ c & d \end{pmatrix}$

### 3 Ending

... and here it ends.

**will continue tmrw** at <https://latex-tutorial.com/tutorials/amsmath/>