

# Math: TypeWell Tips and Tools

How and when to type math and science using TypeWell.

Sharon Allen

Portland, OR

- Coordinator of Interpreting and Transcribing Services.
- 20 years interpreting and transcribing, including math.

Steve Colwell

Santa Barbara, CA

- Created the math system in TypeWell V5.

**Kyp!**

Cyberspace, USA

- Prepared these awesome slides!
- TypeWell Math was really MY idea!!!

# What Language is this?

“Six point oh two times ten to the twenty-third power”

# Translating

“Mathlish” Six point oh two times ten to the  
twenty-third

.

.

.

.

Math:  $6.02 \times 10^{23}$

# Which is Best?

English:

“If the area of a square is 100, the square root of 100 gives us the length of one side.”

Mathlish:

“the square root of 100”

Written  
Math:

$\sqrt{100}$  >> `sqrt 100`

# Which Is Best?

English: “If the area of a square is 100, the square root of 100 gives us the length of one side.”

Mathlish: “the square root of 100”

Written Math:  $\text{sqrt } 100 \gg \sqrt{100}$

# Math Mode

- Easy “Mathlock” key
- Spacing

$$x - y \text{ eq } 3 \quad \gg \quad x - y = 3$$

$$x \text{ pl } y \text{ lt } 2 \quad \gg \quad x + y < 2$$

# Symbols

98.6deg (or 98.60 ,) >> 98.6°

\$59 + 32c/ (or 32cents) >> \$59 + 32¢

⊕ ∨ ≈ ≠ £ ♀ € ∅ ∩ ≅ ∇ ∄

# Algebra

$$x^{\{ctrl+h\}2} \gg x^2$$

$$2x^2 \gg 2x^2$$

$$x^2 \text{ pl } 3y^2 \text{ eq } z^2 \gg x^2 + 3y^2 = z^2$$

$$x^{\{ctrl+h\}n-1} \text{ pl } 4 \gg x^{n-1} + 4$$

# More Superscripts/Subscripts

$3 \times 10^8 \text{ cm/sec}$  (or  $3e8$ )  $\gg$   $3 \times 10^8 \text{ cm/sec}$

$6.02 \times 10^{23}$  (or  $6.02e23$ )  $\gg$   $6.02 \times 10^{23}$

$9.8 \text{ m/s}^2$      $e^{i\pi} = -1$      $a_1 + a_2$      $x^{yz}$

# Fractions

$$1/2 \gg \frac{1}{2} \text{ or } \frac{1}{2}$$

$$2/3 \gg \frac{2}{3}$$

$$\{\text{ctrl+h}\} \mathbf{n} \{\text{ctrl+n}\} / \{\text{ctrl+l}\} \mathbf{5} \gg \frac{n}{5}$$

$$\frac{1}{4} \quad \frac{3}{4} \quad \frac{3}{8} \quad \frac{4}{7} \quad \frac{3}{2} \quad \frac{x}{y}$$

# Greek

$$\sin^2 \theta + \cos^2 \theta = 1 \gg \sin^2 \theta + \cos^2 \theta = 1$$

$$a = \pi r^2 \gg a = \pi r^2$$

$$\Delta x + \delta y \gg \Delta x + \delta y$$

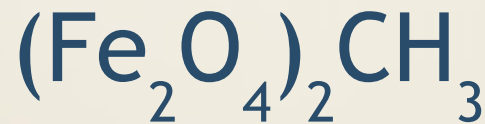
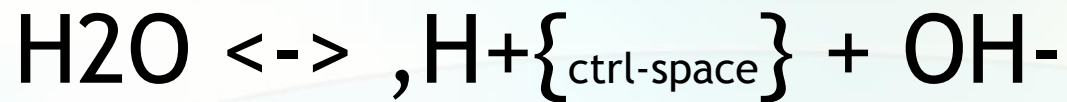


$$i \eta \pi \gg i \eta \pi$$

# Interlude

$$\begin{aligned} & ((12 + 144 + 20 \\ & \quad + (3 * \sqrt{4})) \\ & \quad / 7) \\ & \quad + (5 * 11) \\ & \quad = 9^2 + 0 \end{aligned}$$

# Chemistry



# Multiline

$$\text{frac } y\{\text{up}\}\{\text{up}\}x\{\text{shift+Enter}\} \gg \frac{x}{y}$$

$$\frac{(x^2 - 1)}{(x^2 + 1)}$$

quadratic      sqrt ,

# Multiline (cont)

inside out:

$$3 \frac{x-1}{y}$$

$$\lim_{x \rightarrow \infty} \frac{x^2 - 2}{x^2 - 2x - 3}$$

# Physics

$$\text{Work}_{\text{out}} = \text{Work}_{\text{in}} + \Delta w$$

Note that  $\text{Work}_{\text{out}}$  grows as  $\Delta w$  does.

Rotational speed:  $2\pi r/t$  or  $2\pi r/t$

$$9.8 \text{ m/s}^2 \quad E = mc^2 \quad d = \frac{1}{2} at^2$$

# Electricity

100Ω (ohms)

60 Hz

# Matrices

```
mat {up}{left}{left}1{tab}2row 3{tab}4
```

```
>>
```

$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

# Adapting Templates

`lim` >> `limi→0`

Make: `limxinf` >> `limx→∞`

Make: `sum0n+1` with `k`, not `i`

# Foreign Words



n~ >> señor

o: ao >> smörgåsbord



e' >> résumé

*kki\_kpu\_!* >> キプ!



# Preparation

1. Prepare your dictionary
2. Practice the terminology
3. Scan the textbook beforehand  
(or web: [scienceworld.com](http://scienceworld.com))
4. Consult textbook during lecture

# Questions?

limits

trigonometry

nonmath symbols

negative exponents

logarithms

more Greek

indices

# Resources

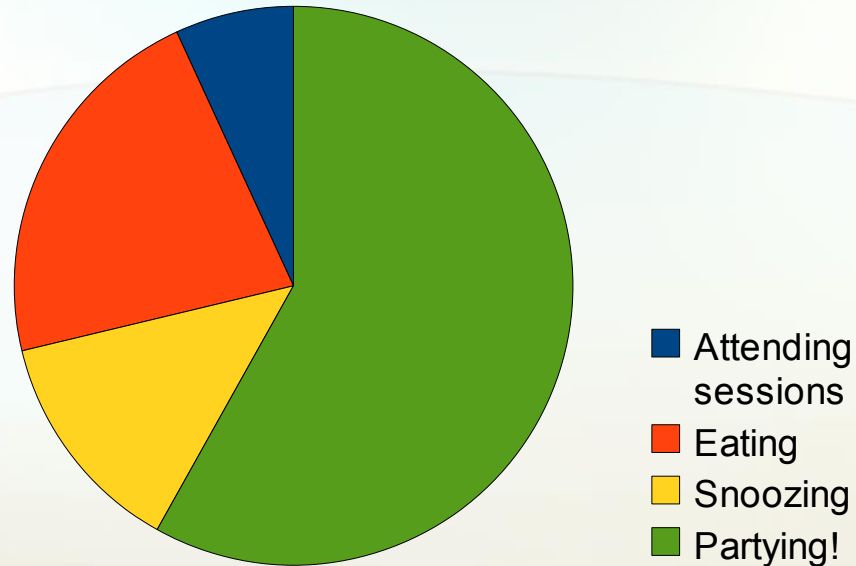
Help menu Math Tutorial

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# Graphs and Commentary



*“This wedge highlights a worrisome trend.”*

The blue wedge highlights a worrisome trend.