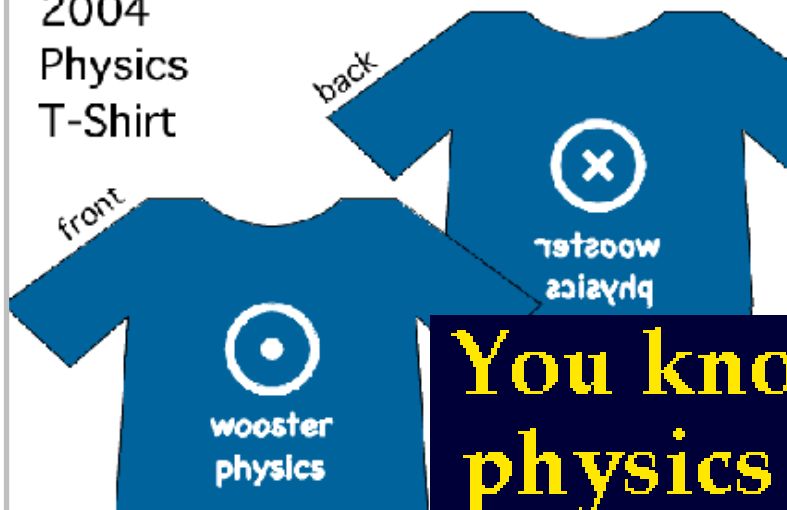


2004
Physics
T-Shirt



Ideas for
Physics Club
Shirts

You know you're a physics major, if...

...you know vector calculus,
but can't remember long division

...you're still at Taylor
when Dr. J arrives in the morning

...it's sunny and 70 degrees outside,
and you're working on a computer

...you can name Dr. Andrews' two dogs

...you know the comfort of napping
in the leather chairs in Forbes library

...you declare any problematic terms
"negligible"

We're not nerds!
I can prove it
with this equation:

$$-\frac{\hbar^2}{2m}\nabla^2\Psi + V\Psi = i\hbar\frac{\partial}{\partial t}\Psi$$

*Favorite
options*

God said...

$$\oiint \vec{E} \cdot d\vec{a} = Q$$

$$\oint \vec{B} \cdot d\vec{l} - \frac{d}{dt} \oiint \vec{E} \cdot d\vec{a} = I$$

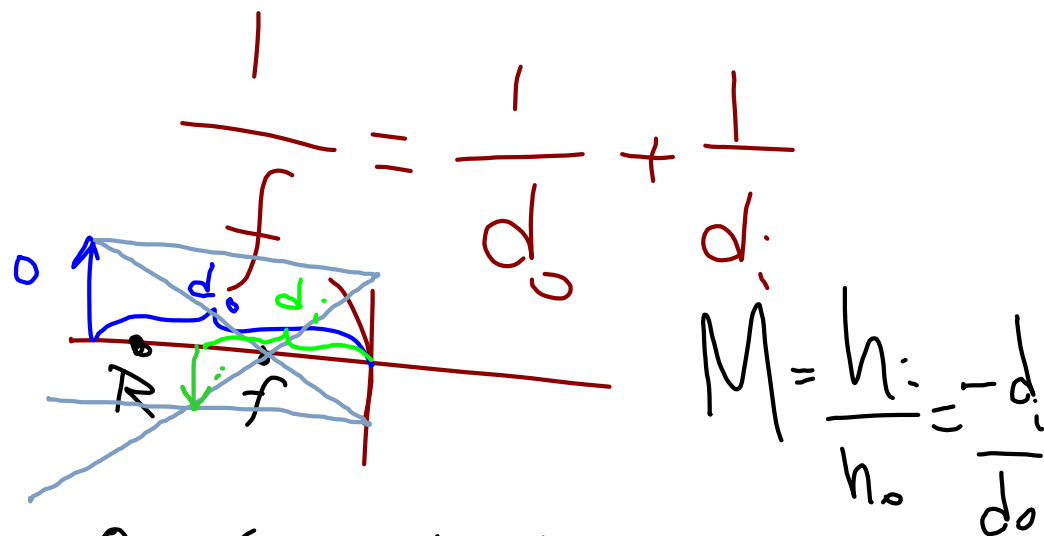
$$\oiint \vec{B} \cdot d\vec{a} = 0$$

$$\oint \vec{E} \cdot d\vec{l} + \frac{d}{dt} \oiint \vec{B} \cdot d\vec{a} = 0$$

...and there was light

§ 23.3

Sign Convention



On correct side \Rightarrow Positive
 (left) \Rightarrow Positive
 Convex mirror \Rightarrow f is neg

e.g. real image $\Rightarrow +$

$d_i =$ Virtual image $\Rightarrow -$

If upright, $h \Rightarrow +$

(13)

upright

$$d_o = 1.3 \text{ m}$$

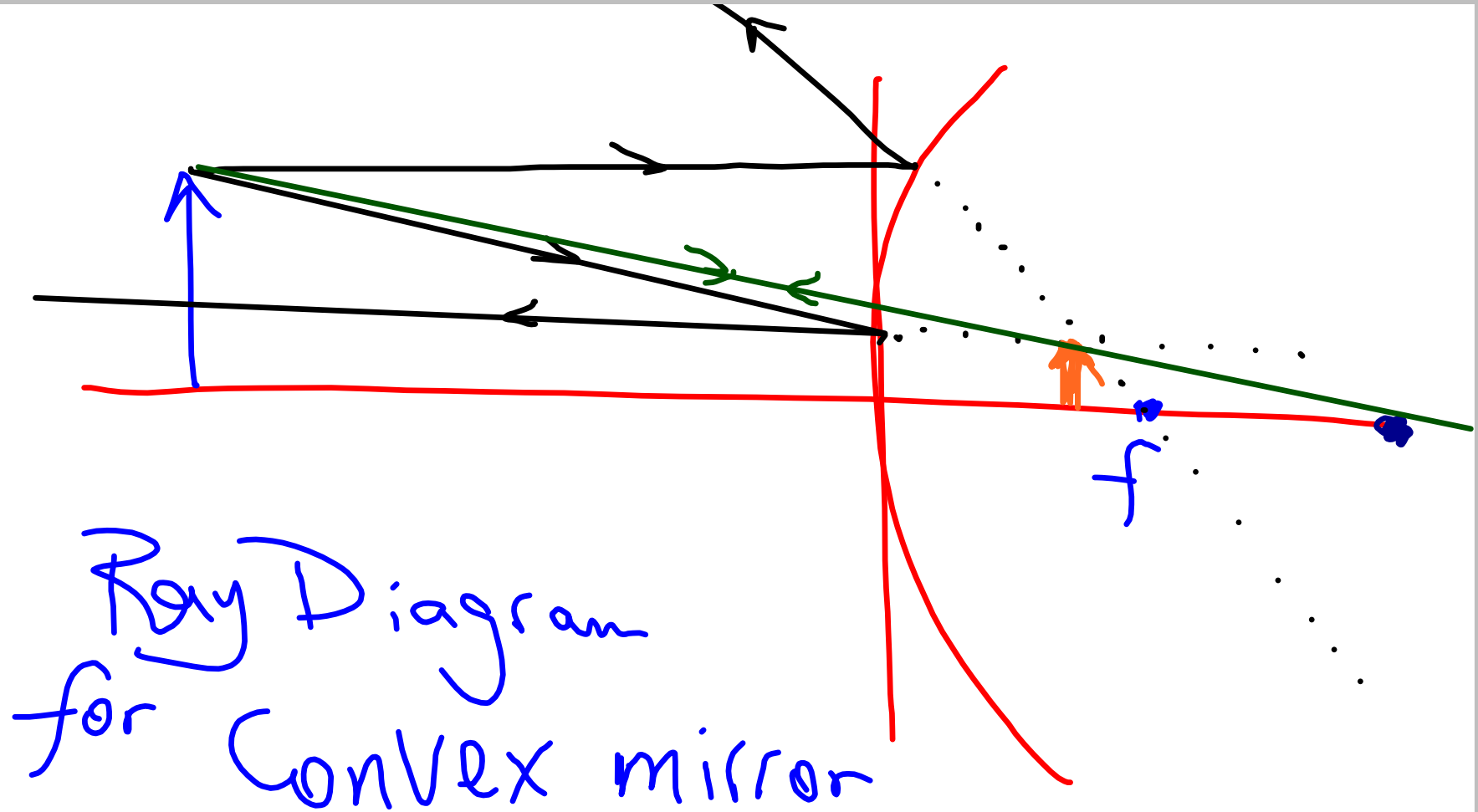
$$M = 3 = -\frac{d_i}{d_o}$$

$$\Rightarrow d_i = -3(1.3 \text{ m})$$

$$d_i = -3.9$$

$$\frac{1}{-3.9} + \frac{1}{1.3} = \frac{1}{f}$$

$$\text{So } r = 2f = 2(1.95 \text{ m})$$



18

$$d_i = 14.0 \text{ cm}$$

CONVEX

$$\frac{1}{f} = \frac{1}{d_i} + \frac{1}{\infty}$$
$$\frac{1}{f} \stackrel{\text{lim}}{=} \frac{1}{d_i} + \frac{1}{\infty} = \frac{1}{d_i}$$

Since very far away

$$\frac{1}{f} = \frac{1}{d_i}$$

Just like in Lab

$$\Rightarrow f = 14.0 \text{ cm}$$

