1ST LENS

$$\frac{1}{f_1} = \frac{1}{d_{o1}} + \frac{1}{d_{I1}}$$

$$\frac{1}{20} = \frac{1}{60} + \frac{1}{d_{I1}}$$

$d_{I1} = 30\text{ cm}$

2ND LENS

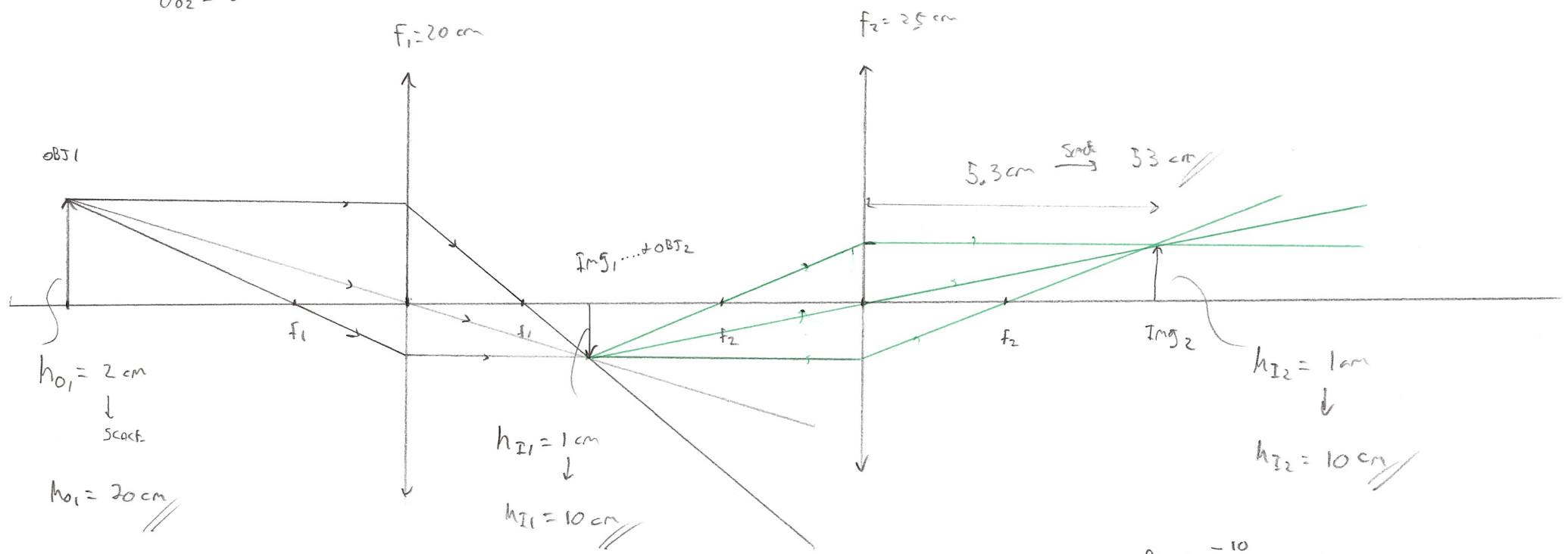
$$\frac{1}{f_2} = \frac{1}{d_{o2}} + \frac{1}{d_{I2}}$$

$$\frac{1}{25} = \frac{1}{50} + \frac{1}{d_{I2}}$$

$d_{I2} = 50\text{ cm}$

$d_{o2} = 80 - 30 = 50\text{ cm}$

SCALE $= \frac{1}{10}$



$h_{o1} = 2\text{ cm}$

↓ Scale

$h_{o1} = 20\text{ cm}$

$h_{I1} = 1\text{ cm}$

↓

$h_{I1} = 10\text{ cm}$

$m_1 = \frac{-10}{20} = -\frac{1}{2}$

$h_{I2} = 1\text{ cm}$

↓

$h_{I2} = 10\text{ cm}$

$m_2 = \frac{-10}{10} = -1$

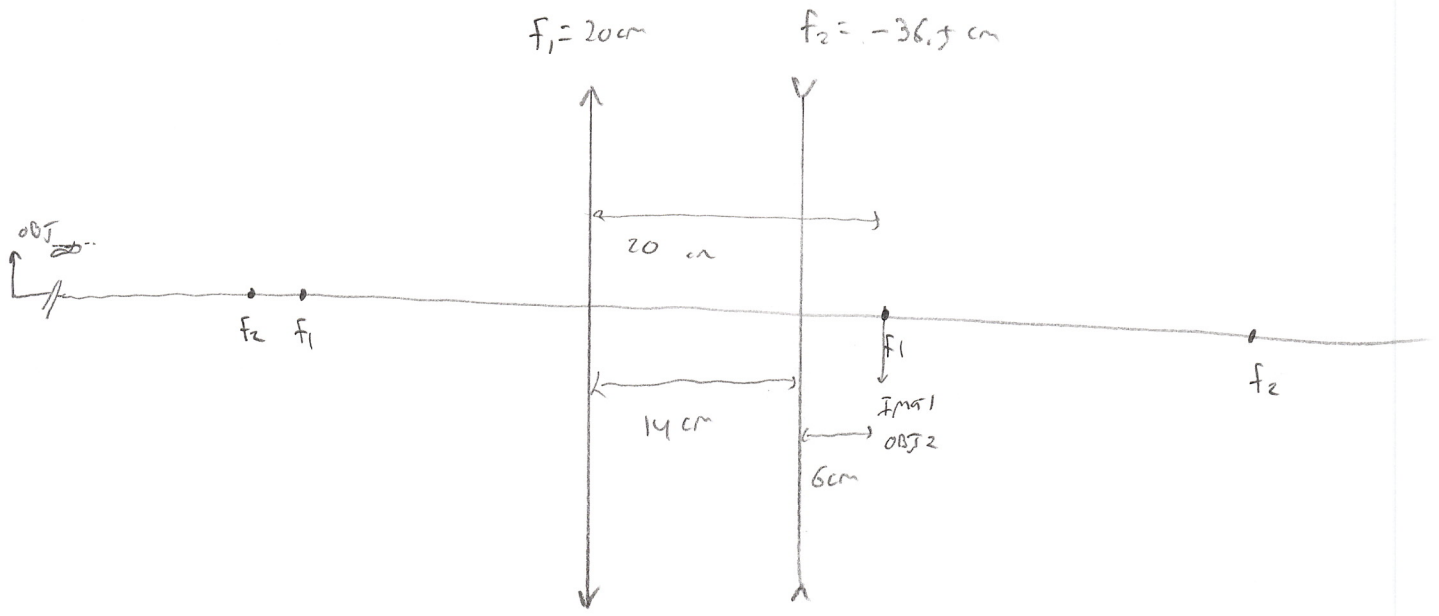
$m_{TOTAL} = m_1 \cdot m_2 = \left(-\frac{1}{2}\right)(-1) = +\frac{1}{2}$

UPRIGHT

OR...

$m_{TOTAL} = \frac{h_{I2}}{h_{o1}} = \frac{1}{2}$ ✓

(2)



1ST LENS

$$\frac{1}{f_1} = \frac{1}{d_{o1}} + \frac{1}{d_{I1}}$$

$$\frac{1}{20} = \frac{1}{\infty}^{0} + \frac{1}{d_{I1}}$$

$$d_{I1} = 20 \text{ cm}$$

2ND LENS

$$\frac{1}{f_2} = \frac{1}{d_{o2}} + \frac{1}{d_{I2}}$$

$d_{o2} = 20 - 14 = 6$ cm

BUT

-6 cm

↑ ON RIGHT SIDE OF LENS.

"VIRTUAL OBJ"

$$\frac{1}{-36.5} = \frac{1}{-6\text{cm}} + \frac{1}{d_{I2}}$$

$$d_{I2} = 7.18 \text{ cm}$$

+ SO ON RIGHT SIDE OF DIVERGING LENS.