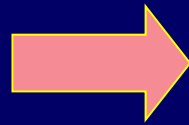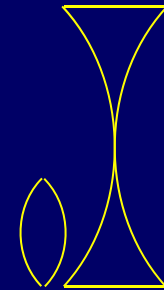# Farsightedness

$$\frac{1}{d_o} + \frac{1}{d_i} = \frac{1}{f_{lens}}$$

- Near point $d_{near} > 25$ cm

- To correct, produce virtual image of object at $d_0 = 25$ cm to the near point ($d_i = d_{near}$)

$$\frac{1}{d_o} + \frac{1}{-d_{near}} = \frac{1}{f_{lens}}$$ ⟹ $$\frac{1}{25} + \frac{1}{-d_{near}} = \frac{1}{f_{lens}}$$

**Example:**
- **My near prescription reads +2.5 diopters**
- **$f_{lens}$ = +1/2.5 = 0.4 m = 40 cm**
- **therefore $d_{near}$ = 67 cm  (with my far correction)**