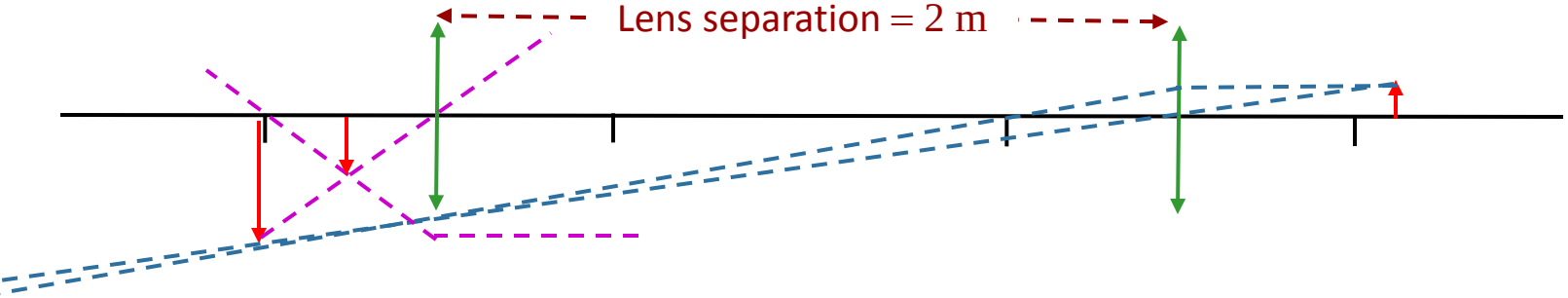
Multiple Lenses Exercises

Suppose we now decrease the initial object distance to 58 cm. Applying the lens equation, we find $s_1' = 2.48\text{m}$



$s_1 = 58$ cm
$f = 47$ cm
$s_1' = 2.48$ m
$s_2 = -0.48$ m

What is the nature of the final image in terms of the original object?

A) REAL UPRIGHT

B) REAL INVERTED

C) VIRTUAL UPRIGHT

D) VIRTUAL INVERTED

EQUATIONS

$$S_2' = \frac{fs_2}{s_2 - f}$$

$s_2 < 0 \rightarrow s_2' > 0 \rightarrow$ real image

$$M_2 = -\frac{S_2'}{S_2} \rightarrow M_2 > 0 \rightarrow M = M_1 M_2 < 0$$

$\rightarrow$ inverted image

PICTURES

Draw Rays as above.

RESULTS

$s_2' = 0.24$ m

$M = -2.1$