Optics kits	5 pts per station. 20 pts total.

For each of the following stations;

- set up the object as described relative to lense/mirror.
- Draw the associated ray diagram in the provided space.
- Record the image distance and object distances (cm)
- Calculate f using the "lense/mirror" equation
- Compare your calculated value of "f" with stated value of "f" using % error calculation.

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1. *Converging lens* with object *OUTSIDE* of "f".

d_i= image distance (cm) _____ f = focal length (calculated using equation) _____

d_o = object distance (cm) ____ $f_{(stated)}$ = (written on lense/mirror) _____

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2. *Diverging lens* with object outside of "f".
Note: for this station, several students should 'estimate" the image distance and discuss before writing down values. ***Note: some students have a hard time estimating distances of virtual images. Ask Clark about "the trick"!***

d_i= image distance (cm) _____ f = focal length (calculated using equation) _____

d_o = object distance (cm) ____ $f_{(stated)}$ = (written on lense/mirror) _____

3. Concave mirror, object is OUTSIDE of "f".

d_i= image distance (cm) _____ f = focal length (calculated using equation) _____

d_o = object distance (cm) ____ $f_{(stated)}$ = (written on lense/mirror) _____

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4. Concave mirror, object is INSIDE of "f".

d_i= image distance (cm) _____ f = focal length (calculated using equation) _____

d_o = object distance (cm) ____ $f_{(stated)}$ = (written on lense/mirror) _____