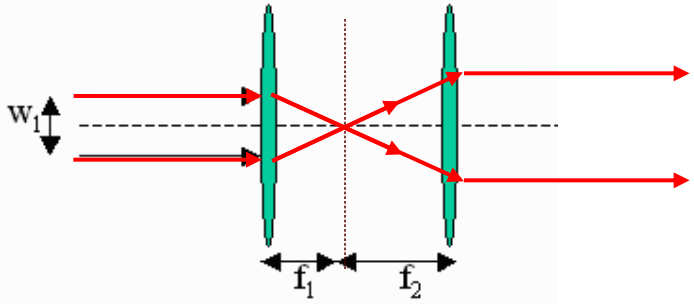
CheckPoint 3

6) A parallel laser beam of width w_1 is incident on a two lens system as shown below.



Each lens is converging. The second lens has a larger focal length than the first ($f_2 > f_1$). What does the beam look like when it emerges from the second lens?

A. The beam is converging
B. The beam is diverging
C. The beam is parallel to the axis with a width < w_1
D. The beam is parallel to the axis with a width = w_1
E. The beam is parallel to the axis with a width > w_1

1. Parallel rays are transmitted and pass through foca point (f_1)
2. Those rays also pass through focal point of second lens (f_2) and therefore are transmitted parallel to the axis.
3. $f_2 > f_1$ implies that the width > w_1