

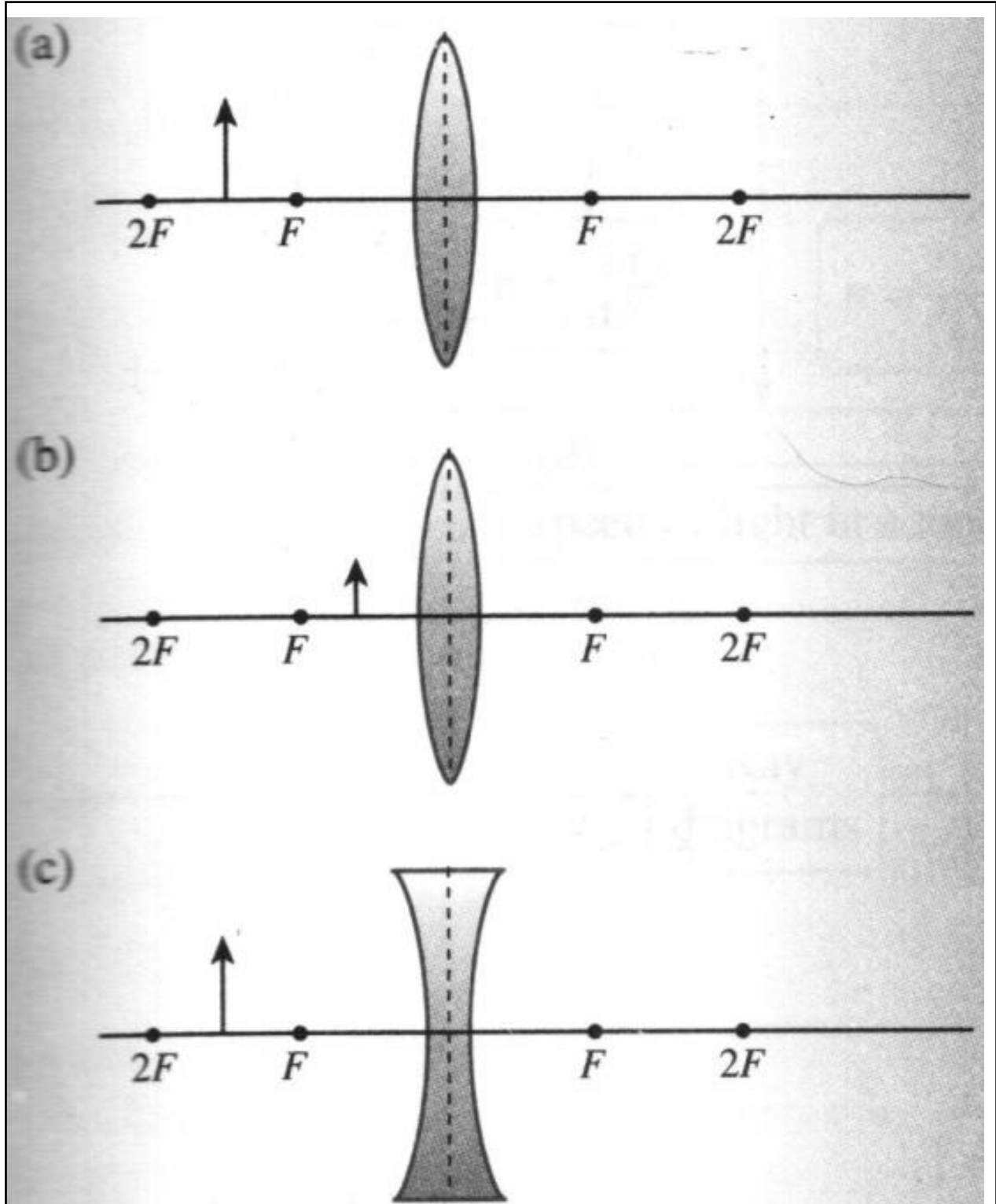
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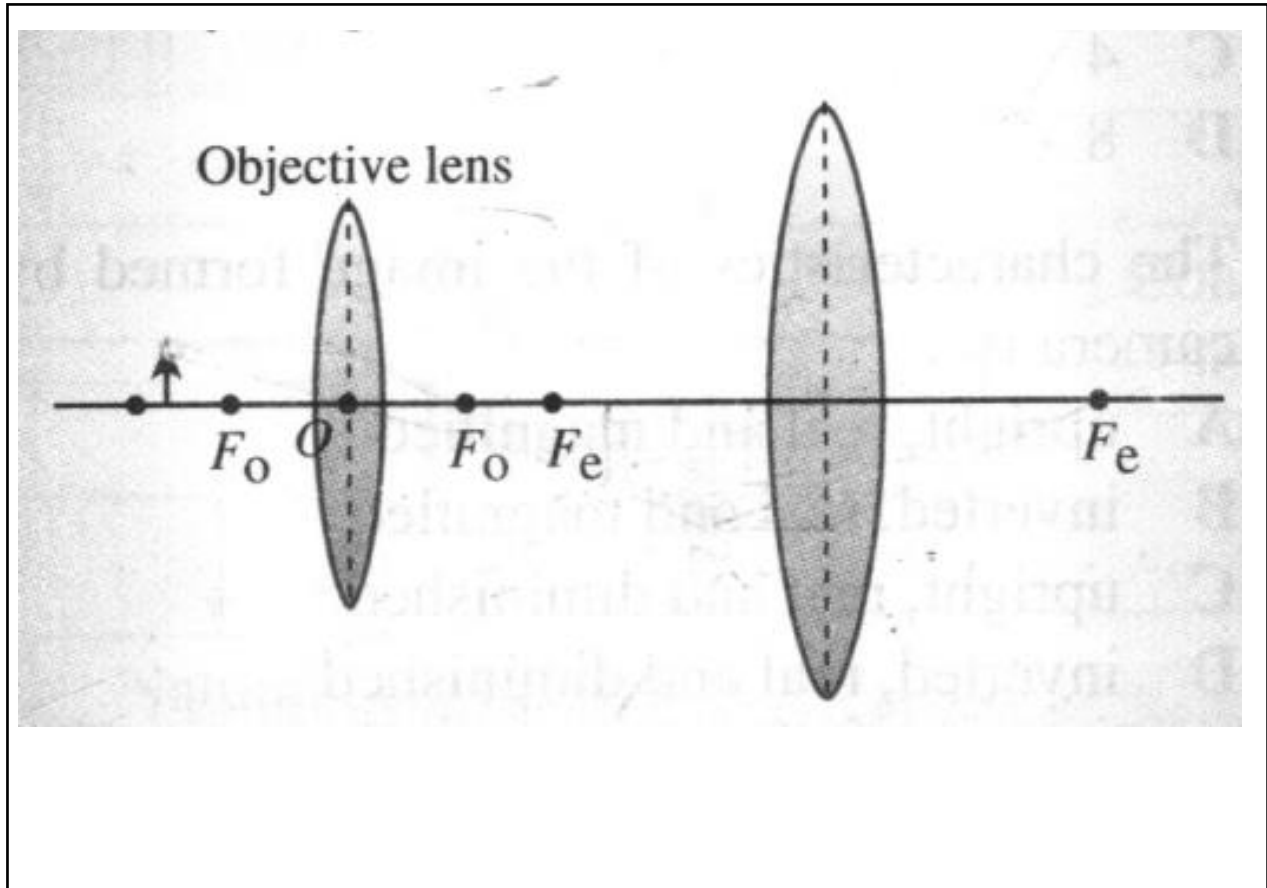
### Lenses Part 2

Q1. Draw the ray diagram for the different objects as shown below.



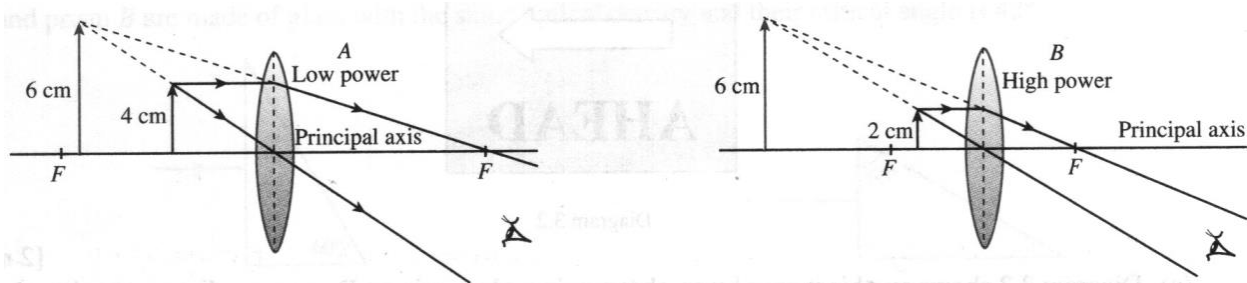
Signature: Name: Marks: **Q2.**

The figure shows the ray diagram for a compound microscope. In the figure, complete the ray diagram to form the final image.



Signature: Name: Marks: **Q3.**

Both diagrams below show the ray diagrams of two convex lenses A and B. The objects used in the diagram have heights 4 cm and 2 cm respectively whereas the images formed in both diagrams have the same height of 6 cm. The objects in both diagrams are placed between the focal points of the lenses and the lenses.



a) What is meant by power of a convex lens? State its unit.

b) Using both diagrams above compare the powers of both lenses, the height of the objects and the images formed by both lenses and the linear magnifications of both lenses. State the relationship between the power of a lens and its linear magnification.

c) Convex lens are used in slide projectors.

I. State the position of the object so that a convex lens can be used in a projector slide.

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II. Draw the ray diagram of the convex lens used in the slide projector and state the characteristics of the image formed.

d) You are given two convex lenses to construct a microscope. One lens has a high optical power whereas the other lens has a low optical power. Using these lenses and other necessary materials, describe and explain how you would construct the microscope.