NEXT-TIME QUESTION

The photographer wishes to photograph the rainbow but is disappointed to find the camera's angle of view is not wide enough to see the whole rainbow. To get the whole rainbow, she would be better off if she were

closer to the rainbow.

farther from the rainbow.

.. neither, for she'd get the same portion of bow in either case.

Hewitt Drew-it!

NEXT-TIME QUESTION

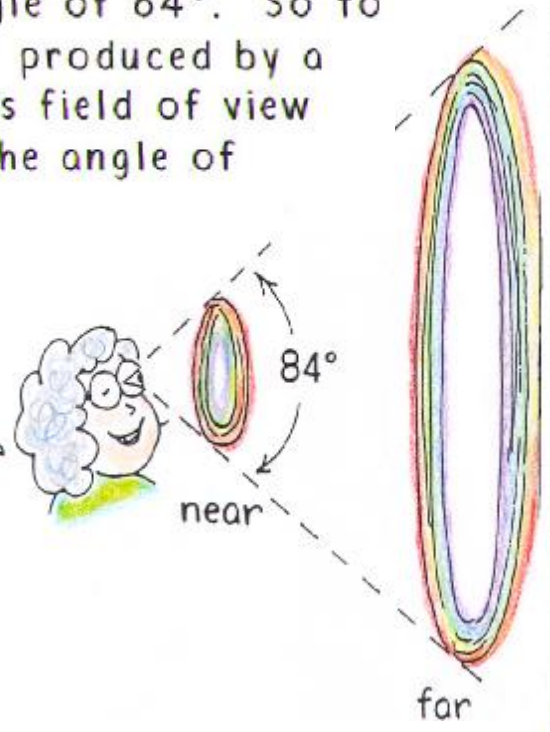
The photographer wishes to photograph the rainbow but is disappointed to find the camera's angle of view is not wide enough to see the whole rainbow. To get the whole rainbow, she would be better off if she were

a) closer to the rainbow.
b) farther from the rainbow.
c) ... neither, for she'd get the same portion of bow in either case.

Answer: c, neither

Any full circle rainbow, near or far, subtends an angle of 84°. So to photograph a full rainbow, whether a very close one produced by a hand-held garden hose or one mile away, the camera's field of view must be at least 84°—a very wide-angle lens. It is the angle of view, not the distance, that matters.

All rainbows, by the way, are completely round, as can be seen from a high-flying helicopter. Viewed from below, however, the ground gets in the way. To photograph a full-circle rainbow from a helicopter, the 84° field of view must be vertical as well as horizontal. Has anyone successfully taken a photograph of a full-circle rainbow?



CONCEPTUAL Physics

ARBOR SCIENTIFIC
TOOLS THAT TEACH.

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