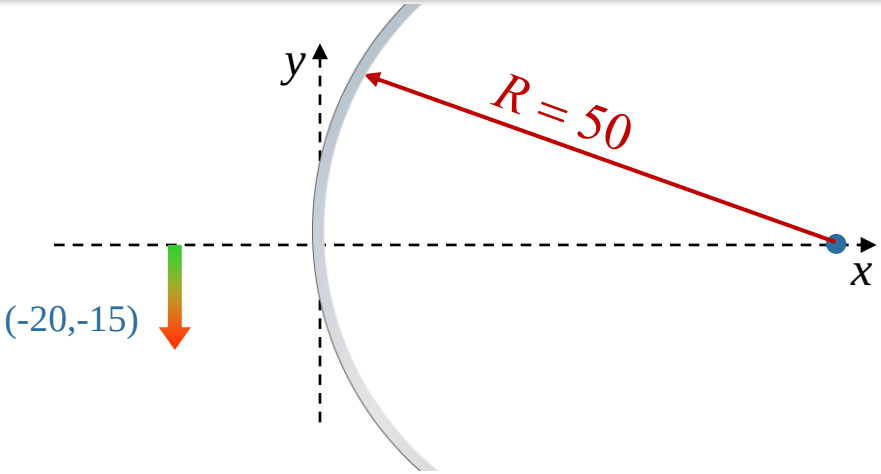
Calculation

An arrow is located in front of a convex spherical mirror of radius $R = 50\text{cm}$. The tip of the arrow is located at $(-20\text{cm}, -15\text{cm})$.



Where is the tip of the arrow's image?

Conceptual Analysis

Mirror Equation: $1/s + 1/s' = 1/f$

Magnification: $M = -s'/s$

Strategic Analysis

Use mirror equation to figure out the x coordinate of the image

Use the magnification equation to figure out the y coordinate of the tip of the image