ECLIPSING ENIGMA

What percentage of the Sun’s disk area will be obscured by the Moon?

1. Use similar triangles to find the radius of the Sun's disk area that is obscured by the Moon.

\[
\frac{1,737 \text{ km}}{388,901 \text{ km}} = \frac{x}{148,523,036 \text{ km}} \Rightarrow x \approx 663,400 \text{ km}
\]

2. Calculate the ratio of the obscured area to the Sun's total disk area using the formula for area of a circle.

\[
\frac{A_{\text{Moon}}}{A_{\text{Sun}}} = \frac{\pi r^2}{\pi r^2} \approx \frac{\pi (663,400 \text{ km})^2}{\pi (695,700 \text{ km})^2} \approx 0.91 = 91\%
\]

Will the eclipse be an annular eclipse or total eclipse?

It will be an annular eclipse.