Step-1

Equation of given ellipse is $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1.$

We can written this equation as $\lambda_1 x^2+\lambda_2 y^2=1.$

Compare these two equations,

So, $\lambda_1=\frac{1}{a^2},\lambda_2=\frac{1}{b^2}$

$\Rightarrow a=\frac{1}{\sqrt{\lambda_1}},b=\frac{1}{\sqrt{\lambda_2}}$

Thus half lengths of axes are $\boxed{a=\frac{1}{\sqrt{\lambda_1}},b=\frac{1}{\sqrt{\lambda_2}}}$.

Step-2

Given ellipse equation is $9x^2+16y^2=1.$

$\Rightarrow \frac{x^2}{\left(\frac{1}{3}\right)^2}+\frac{y^2}{\left(\frac{1}{4}\right)^2}=1$

$\Rightarrow a=\frac{1}{3},\ b=\frac{1}{4}.$

Thus half lengths of axes are $\boxed{a=\frac{1}{3},\ b=\frac{1}{4}}$.