

3) Order of the differential equation representing the family of parabolas $y^2 = 4ax$ is:

Solution:

$$y^2 = 4ax$$

$$\rightarrow 2y \cdot \frac{dy}{dx} = 4a$$

\therefore By eliminating a , we get $y^2 = 2y \left(\frac{dy}{dx} \right) \cdot x$
 \therefore Order of the differential equation is $\boxed{1}$.