

Integration by separation

# Solve the Initial Value Problem

1.  $\frac{dy}{dx} = \frac{x}{y}$      $y(1)=4$

2.  $\frac{dy}{dx} = \frac{\sqrt{x}}{2y}$      $y(0)=2$

5.  $\frac{dy}{dx} = y^2(1+x^2)$      $y(0)=1$

6.  $\frac{dy}{dx} = 2x^2y^2$      $y(0)=-3$