2b) $\dfrac{dy}{dx} = -\dfrac{1}{2y}$

$2y\,dy = -dx$

$\int 2y\,dy = \int -1\,dx$

$\overset{\text{''}}{y^2 + C_1} \qquad \overset{\text{''}}{-x + C_2}$

$y^2 = -x + C_2 - C_1$

$\quad = -x + C_3$

$y = \pm\sqrt{-x + C_3}$