

(2)

$$u = b_1 \sin\left(\frac{x}{2}\right) e^{-9t/4} + b_3 \sin\left(\frac{3x}{2}\right) e^{-81t/4}$$

$$+ b_5 \sin\left(\frac{5x}{2}\right) e^{-225t/4} + \dots$$

$$= \frac{8}{\pi} \sin\left(\frac{x}{2}\right) e^{-9t/4} - \frac{8}{9\pi} \sin\left(\frac{3x}{2}\right) e^{-81t/4}$$

$$+ \frac{8}{25\pi} \sin\left(\frac{5x}{2}\right) e^{-225t/4} + \dots$$