Επιλύσατε τις Δ.Ε.

1) $y'(x) + y(x) = x y^{-1}(x)$

2) $xy'(x) + 3x^2 y^2(x) = y(x)$

3) $y'(x) = 4y(x) + e^{-x} y^{3/4}(x)$

4) $xy'(x) = y(x) + xe^x y^2(x)$

5) $xy'(x) = y(x) - [xy(x)]^2$, $y(1) = 1$

6) $y'(x) + y(x) = x\sqrt{y(x)}$, $y(0) = 4$

7) $y'(x) \cdot \eta\mu x + 4y(x) \cdot \sigma\upsilon\nu x = \sqrt{y(x)}$

Επιλύσατε τις Δ.Ε.

(1) $y''(x) - y(x) = x^2$

(2) $y''(x) + y(x) = 2e^x$, $y(0)=0$, $y'(0)=1$

(3) $y''(x) - y(x) = x \eta\mu x$

(4) $y''(x) + y(x) = 2xe^x$

(5) $y''(x) - 2y'(x) + y(x) = e^x$

(6) $2y''(x) + y'(x) - y(x) = e^{2x} - x^2$

(7) $y''(x) - y(x) - 2y(x) = \eta\mu x + 2x + 3$