

HOMEWORK #3 (Chapter 1 Review)

Due on Oct. 27

1. Find the family of orthogonal trajectories of the given family of curves.

$$y = e^{kx} \quad (\text{p.60, problem 43})$$

2. Find the general solution. These differential equation include all types discussed in this chapter.

(1). $y' = 8x^3 - 3y$ (p.63, problem 2)

(2). $2y - 7x - 2(y - x)y' = 0$ (p.63, problem 3)

(3). $(x^2 - 4)y' = y + 3$ (p.63, problem 6)

(4). $xy' + y = 2y^{\frac{3}{2}}$ (p.63, problem 8)

(5). $6x - 2yy' = 0$ (p.63, problem 9)

(6). $y' = \frac{4y}{4x - y}$ (p.63, problem 13)

(7). $y' = xy^2 + (1 - 2x)y + x - 1$ (p.63, problem 14)