

Dartmouth College
Mathematics 23 - Assignment 6

1. Boyce and DiPrima, Section 2.3: 12
2. Boyce and DiPrima, Section 3.1: 10
3. Boyce and DiPrima, Section 3.1: 20
4. Boyce and DiPrima, Section 3.1: 21
5. Boyce and DiPrima, Section 3.1: 27
6. Consider the differential equation

$$(t - 3)y'' + \sqrt{t}y' + \frac{1}{t - 8} = 0.$$

For each of the following initial conditions, determine the largest interval on which the initial value problem is certain to have a twice differentiable solution:

- (a) $y(1) = 1, y'(1) = 7$
 - (b) $y(5) = 0, y'(5) = 10.$
7. Boyce and DiPrima, Section 3.2: 16