## Exam I Exam I Exam I Exam I Exam I Exam 1 (First Exam) Exam 1 Exam 1 Exam 1 Exam 1

**Instructions:** Answer <sup>1</sup> the following.

- 1. Solve  $x^2 = 3\sqrt{x}$ .
- 2. Solve  $x = \tan x$ .
- 3. Solve

$$y' - 3x = 7.$$

4. Solve

$$y'' - 3y' = 7.$$

- 5. The following parts are unrelated:
  - (i) What is the value of  $\sum_{i=1}^{n} i$ ?
  - (ii) What is the value of

$$\sum_{i=1}^{n} i^2?$$

- 6. Find  $\int_{2}^{5} \frac{1}{x+1} dx$ ?
- 7. Consider the equation

$$\tan x = x. \tag{1}$$

Use fixed-point iteration to solve Equation (1). What is  $x_{12}$  in this iteration?

Question #8: ...

<sup>&</sup>lt;sup>1</sup>Do only 5 questions.