This exam has 33 points. There are five questions on the exam; you should work all of them. Questions 1, 3, and 5 are worth 7 points each, while questions 2 and 4 are worth 6 points each.

Put your answers to the exam in the blue books you have brought. The figure for the exam appears after the questions.

Answer the questions using as much precision and detail as the time allows. Correct answers which are unsupported by explanations will not be awarded points.
Answer all of the following five questions.

1. [7 points] Show with a diagram that the following two statements are true:
   (a) An unregulated monopolist may produce more pollution than is socially optimal.
   (b) An unregulated monopolist may produce less pollution than is socially optimal.

2. [6 points] By drawing two diagrams, contrast an optimal Pigouvian tax on output with an optimal Pigouvian tax on pollution.

3. [7 points] Tell me everything you know about Figure 1.

4. [6 points] On p. 129 of your textbook, the authors write that
   ...economists tend to dispute that WTP and WTA can differ so much simply because the theory says that they ought not to differ (and hence there must be something wrong with the empirical studies).

   Critically evaluate this passage.

5. [7 points] Could an eccentric philosophy be the outcome of a Rawlsian/contractarian theory of justice in which the moral reference class includes more than just human beings? Why or why not?
Suppose $S_3 S_2 = S_2 S_1$.

Figure 1.