QUEEN'S UNIVERSITY
APSC 171J – Quiz #2
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INSTRUCTIONS

- This quiz is being written in the tutorial (9:30-10:20am) Wednesday, February 13
- Answer all questions, writing clearly on the sheets provided.
- One mark in each question is for a **fully** correct solution, which **must** be placed in the box provided
- Whenever possible, simplify your solution.
- There are no part marks: you will receive only integer marks for each question.

FOR INSTRUCTOR'S USE ONLY		
Question	Mark Available	Received
1	6	
2	10	
TOTAL	16	

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1. [6 marks] Find the definite integral

$$\int_1^2 t^2 \ln(2t) dt.$$

(**[5 marks]** for process, **[1 mark]** for final answer in box below)

Final Answer:

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2. [10 marks] Find the volume generated by rotating about the line $y = -1$ the region bounded by the graphs of the equations $y = x^2 - 3x + 4$ and $y = 4 + x$. Include a clear, large, **labeled** diagram, and state clearly which approach you are using (slices vs. shells).

(**[2 marks]** for diagram, **[3 marks]** for correct volume integral statement, **[4 marks]** for solving the integral properly, and **[1 mark]** for final numeric volume in box on the next page)

extra space for Question 2

Final Answer: