

Name: _____ PID: _____

- Print your *NAME* on every page and write your *PID* in the space provided above.
 - Show all of your work in the spaces provided. No credit will be given for unsupported answers, even if correct.
 - No calculators, tablets, phones, or other electronic devices are allowed during this exam. You may use one page of handwritten notes, but no books or other assistance.
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(1 pt) 0. Follow the instructions on this exam and any additional instructions given during the exam.

(6 pt) 1. Evaluate the integral using any correct method: $\int \frac{1}{x(\ln(x))^2} dx$

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(7 pt) 2. Evaluate the integral using any correct method: $\int x \sin(3x) dx$

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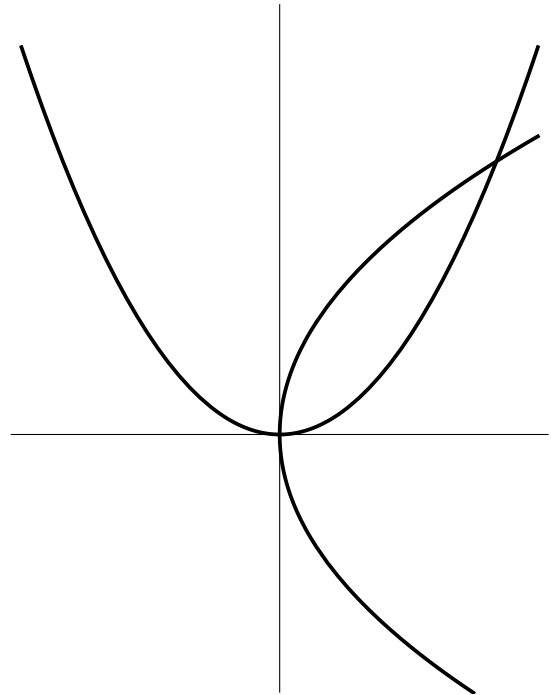
(7 pt) 3. Evaluate the integral using any correct method: $\int_0^{\pi/2} [\sin(\theta)]^4 [\cos(\theta)]^3 d\theta$

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(7 pt) 4. Evaluate the integral using any correct method: $\int_0^{\infty} \frac{1}{x^2 + 4} dx$

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- (7 pt) 5. The curves $y^2 = 2x$ and $x^2 = y$ are shown in the graph below. Compute the points of intersection and compute the area of the enclosed region.



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