Name: _____

Signature: _____

Show all work clearly and in order, and box your final answers. Justify your answers whenever possible. You have 20 minutes to take this 10 point quiz.

---

1. ⟨10 points⟩ Use integration by parts to evaluate

$$\int_1^2 x^3 \, \ln x \, \mathrm{d}x.$$