

Read each question carefully and be sure to SHOW ALL WORK. Correct answer without proper justification will not receive a “Complete” grade. Pac fat! Good luck!

Name: _____

LO 14. Improper Integrals. I can recognize and use limit notation to solve improper integrals.

Criteria for Success: I can

- solve improper integrals with continuity issues or where at least one of the bounds is $\pm\infty$
- identify improper integrals
- split up an improper integrals so that each of them has only one improper bound
- use appropriate limit notation and properties to solve improper integrals

Question: Solve the following integrals by hand. For improper integrals, I'm testing to see in particular appropriate limits wherever needed. **Hint:** Use (a) to do parts (b) and (c). Then, use those for part (d).

(a) $\int 6\left(\frac{p}{50} + 1\right)^{-2} dp =$

(b) $\int_0^{100} 6\left(\frac{p}{50} + 1\right)^{-2} dp =$

(c) $\int_{-50}^0 6\left(\frac{p}{50} + 1\right)^{-2} dp =$

(d) $\int_{-100}^{100} 6\left(\frac{p}{50} + 1\right)^{-2} dp =$