PChem (Chem 312) Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

HW \_\_ : Indicator diagrams and work.

1) Consider a system (2.34 moles of an ideal gas) that has undergone an ***irreversible*** isothermal expansion at 1.12 bar; the initial volume was 2.25 L and initial pressure was 32.6 bar. How much work was done by the system (*answer should be negative*)?

***Please draw an indicator diagram and a “picture” of the system (assume cylinder).***

2) Consider a system (2.34 moles of an ideal gas) that has undergone a ***reversible*** isothermal expansion at 1.12 bar; the initial volume was 2.25 L and initial pressure was 32.6 bar. How much work was done by the system (*answer should be negative*)?

***Please draw an indicator diagram and a “picture” of the system (assume cylinder).***

3) Which process did more work? Reversible expansion Irreversible expansion

(circle one)

4) Consider a system (2.34 moles of an ideal gas) that has undergone an ***irreversible*** isothermal compression at 32.6 bar; the initial volume was 65.5 L and initial pressure was 1.12 bar. How much work was done on the system (*answer should be positive*)?

***Please draw an indicator diagram and a “picture” of the system (assume cylinder).***

5) Consider a system (2.34 moles of an ideal gas) that has undergone an ***reversible*** isothermal compression at 32.6 bar; the initial volume was 65.5 L and initial pressure was 1.12 bar. How much work was done on the system (*answer should be positive*)?

***Please draw an indicator diagram and a “picture” of the system (assume cylinder).***

6) Which process did more work? Reversible compression Irreversible compression

*(circle one)*