Chemistry 11 – Mass, Mole, Volume Conversions

1. Make the following conversions, clearly showing your steps. Include proper units in all of your work and in your answer. Use your periodic table and express all molar masses to 1 decimal place.

   a. 137.5 grams of PCl_3 = ? moles (2 marks)

   Answer _____

   b. 0.00256 moles of $SrCrO_4$ = ? grams (2 marks)

   Answer _____

   c. 92.288 L of NO_2 at STP = ? moles (2 marks)

   Answer _____

   d. 3.2×10^2 moles of SO_3 gas at STP = ? L (2 marks)

   Answer _____

   e. 806.895 g of PCl_5 gas = ? L (STP) (3 marks)

   Answer _____

f. 3136 mL of CH$_4$ gas at STP = ? g (3 marks)

Answer _____

g. 2.25 kg of nitrogen gas = ? L (STP) (3 marks)

Answer _____

h. 0.00285 kg of C$_2$H$_{6(g)}$ = ? mL (4 marks)

Answer _____