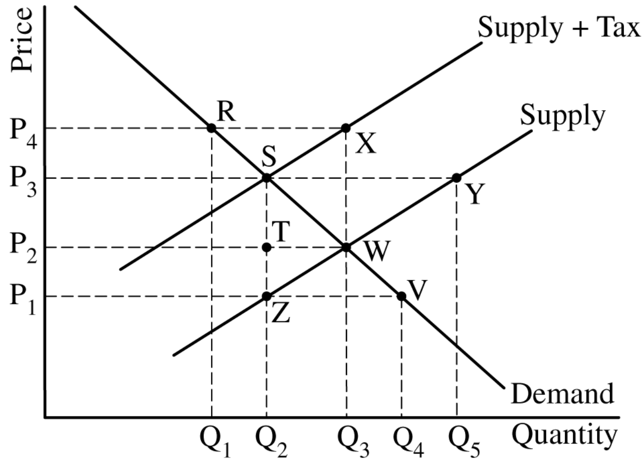

2. Hats are produced in a perfectly competitive industry, and the government imposes a per-unit sales tax on hats.
   (a) Using the labeling from the graph, identify each of the following.
      (i) The after-tax price paid by consumers and the after-tax quantity
      (ii) The area representing the total tax revenue received by the government
   (b) Now assume instead that the demand for hats is perfectly inelastic at Q_3, while the supply and the per-unit tax remain unchanged.
      (i) Will the after-tax price paid by consumers be higher, lower, or the same compared to the price in your answer to part (a)(i) ?
      (ii) Will the total tax revenue received by the government be higher, lower, or the same compared to the tax revenue in your answer to part (a)(ii) ? Explain.
   (c) If the demand for hats remains perfectly inelastic at Q_3 and the per-unit sales tax is reduced, will producer surplus increase, decrease, or stay the same? Explain.