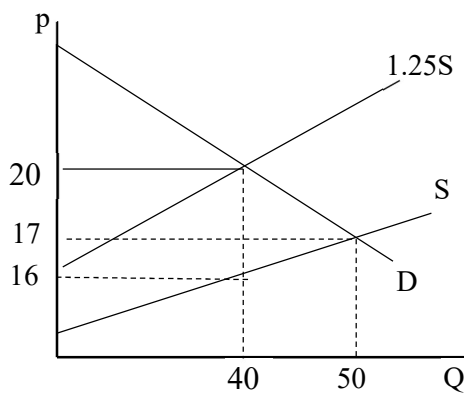


3. At the current market equilibrium, price is \$17 and quantity is 50. A tax of 25% is imposed, after which the price paid by consumers including the tax is \$20 and the new equilibrium quantity is 40. Sketch a figure illustrating the equilibrium before and after the tax. Calculate tax revenue, the producer burden, the consumer burden, and the excess burden. Label each. Hint: If τ is the tax rate, the price paid by consumers is $(1+\tau)$ times the price received by suppliers once the tax is remitted to the government, that is $p_D = (1+\tau)p_S$.



$$1.25p_s = 20, p_s = 16$$

$$\text{Revenue} = 4 \times 40 = 160$$

$$CB = (20 - 17) \times 40 = 120$$

$$PB = (17 - 16) \times 40 = 40$$

$$EB = (20 - 16) \times (50 - 40) / 2 = 20$$