

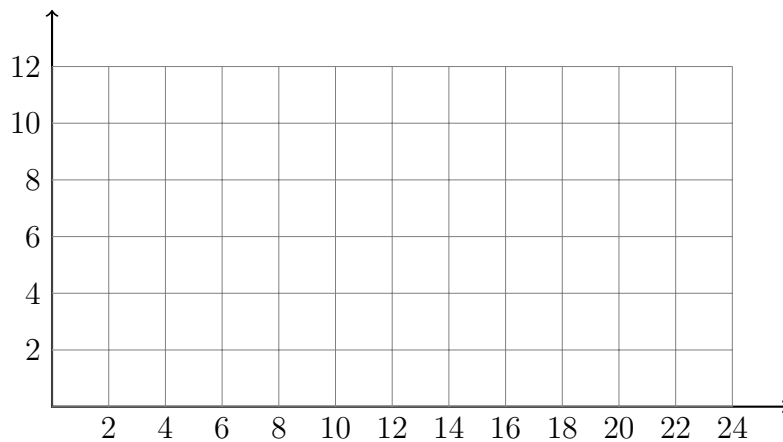
Problem 2: Demand and supply for sticks of deep-fried butter in the country of Zhutopia is given by $P = 12 - \frac{1}{2}Q^D$ and $P = 2 + \frac{1}{2}Q^S$ respectively.

a) Calculate the equilibrium price and quantity of deep-fried butter sticks.

The country of Zhutopia levies a tax of \$2 on buyers of deep-fried butter sticks in an attempt to lower the rate of heart disease among its citizens.

b) What is the new demand curve equation? Does the supply curve change?

c) Sketch a graph showing the effect of the tax.
Clearly label after-tax CS , PS , the tax revenue, and DWL .



d) Calculate P_{BUYER} , P_{SELLER} , and Q_{TAX} .

e) Calculate after-tax consumer surplus, producer surplus, dead weight loss, and the tax revenue.

Suppose Zhutopia levies a tax of \$2 on the sellers of deep-fried butter sticks *instead* of buyers.

f) How would P_{BUYER} , P_{SELLER} , and Q_{TAX} change?

g) Calculate the tax revenue from the tax on sellers.

h) Comment on how buyers and sellers are affected by a tax on buyers vs. a tax on sellers.