

# ECON1001 Introduction to Economics

Spring 2023

## Quiz 1

2023 年 3 月 16 日

1. (10 points)

Which of the following statements is concerning how people interact 下列哪一个说法是关于人们如何相互影响

- (a) Markets are usually a good way to organize economic activity. 市场通常是组织经济活动的好方法
- (b) Rational people think at the margin. 理性人考虑边际量
- (c) People respond to incentives. 人们会对激励做出反应
- (d) All of the above are correct. 以上都是正确的

**Solution:**

a

2. (10 points)

Suppose Jim and Tom can both produce baseball bats. If Jim's opportunity cost of producing baseball bats is lower than Tom's opportunity cost of producing baseball bats, then: 假设吉姆和汤姆都能生产棒球棒. 如果吉姆生产棒球棒的机会成本低于汤姆生产棒球棒的机会成本, 那么:

- (a) Tom must have an absolute advantage in the production of baseball bats. 汤姆在生产棒球棒方面一定有绝对优势
- (b) Jim must have an absolute advantage in the production of baseball bats. 吉姆在生产棒球棒方面一定有绝对优势
- (c) Tom has a comparative advantage in the production of baseball bats. 汤姆在生产棒球棒方面有比较优势

- (d) Jim has a comparative advantage in the production of baseball bats. 吉姆在生产棒球球棒方面有比较优势

**Solution:**

d

3. (10 points)

Which of the following events must cause equilibrium price to fall 下列哪个事件必然导致均衡价格下降

- (a) demand increases and supply decreases. 需求增加, 供应减少
- (b) demand and supply both decrease. 需求和供给都减少了
- (c) demand decreases and supply increases. 需求减少, 供应增加
- (d) demand and supply both increase. 需求和供给都在增加

**Solution:**

c

4. (10 points)

The price elasticity of demand measures the 需求的价格弹性衡量

- (a) magnitude of the response in quantity demanded to a change in price. 需求量对价格变化的反应的大小
- (b) direction of the shift in the demand curve in response to a market event. 需求曲线随市场事件变化的方向
- (c) size of the shortage created by the increase in demand. 需求增加造成的短缺规模
- (d) responsiveness of quantity demanded to a change in income. 需求量对收入变化的反应

**Solution:**

a

5. (10 points)

If the government removes a \$2 tax on buyers of cigars and imposes the same \$2 tax on sellers of cigars, then the price paid by buyers will 如果政府取消了对雪茄买家的2美元税, 并对雪茄卖家征收同样的2美元税, 那么买家支付的价格将会

- (a) not change, and the price received by sellers will not change. 不改变, 卖方收到的价格也不会改变

- (b) not change, and the price received by sellers will decrease. 不改变, 卖方收到的价格会降低
- (c) decrease, and the price received by sellers will not change. 降低, 卖方收到的价格不会改变
- (d) decrease, and the price received by sellers will decrease. 降低, 卖方收到的价格会降低

**Solution:**

a

6. (50 points)

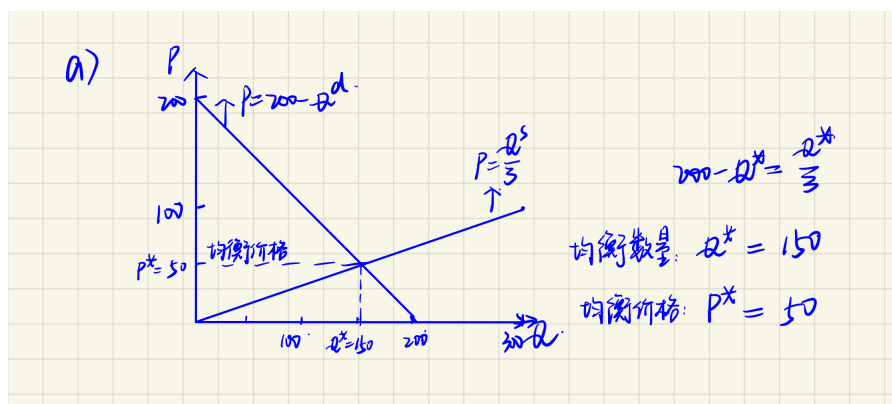
Suppose that a market is described by the following supply and demand equations: 假设市场由下列供求方程描述:

$$Q^s = 3P$$

$$Q^d = 200 - P$$

- (a) (10 points) Graph the supply and demand curves, and mark the equilibrium price and quantity. 画出供给和需求曲线, 并标出均衡价格和均衡数量。

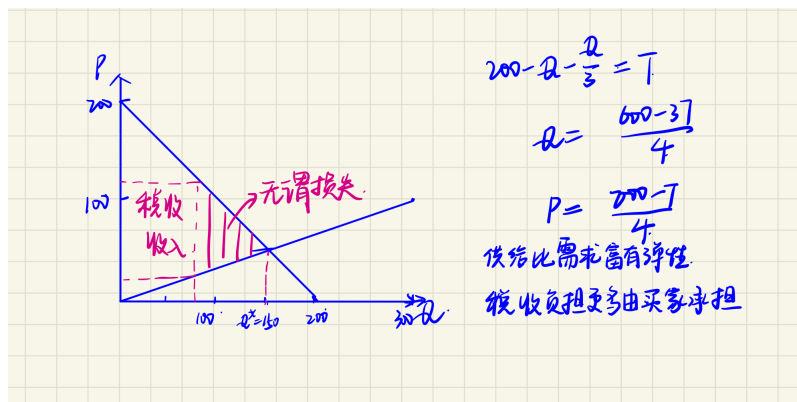
**Solution:**



- (b) (15 points) Suppose that a tax of  $T$  is placed on buyers, now buyers and sellers facing different prices and the gap is the tax. ( $P^d$  refers to demand side's price,  $P^s$  refers to supply side's price) 假设对买家征税  $T$ , 现在买家和卖家面临不同的价格, 差额就是税。 ( $P^d$  为需求方价格,  $P^s$  为供应方价格)

$$P^d = P^s + T$$

Solve for the new equilibrium. Mark the new equilibrium on the graph from a. Buyers or sellers, which side has higher tax burden and why? 解出新的均衡。在图上标出新的均衡, 买家或卖家, 哪一方贡献了更多的税, 为什么?

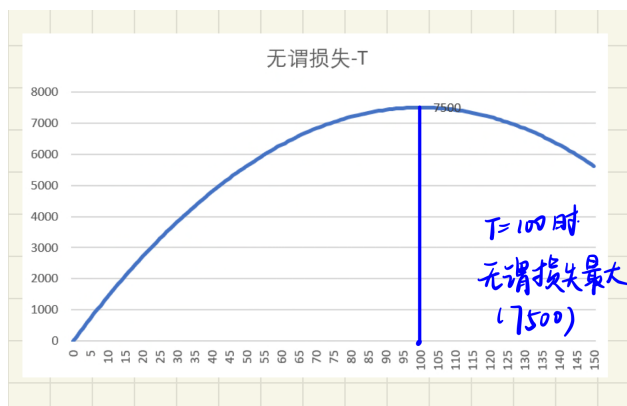
**Solution:**

- (c) (10 points) Tax revenue is  $T \cdot Q$ . Use your answer from part (b) to solve for tax revenue as a function of  $T$ . Graph the relation between revenue and  $T$ . 税收是  $T \cdot Q$ 。用(b)部分的答案求解税收作为  $T$  的函数。画出税收与  $T$  的关系图。

**Solution:**

$$T * Q = \frac{600 * T - 3T^2}{4}$$

关系图如下所示:



- (d) (15 points) Tax causes deadweight loss. Solve for deadweight loss as a function of  $T$ . Graph the relation between deadweight loss and  $T$ . 税收导致无谓损失。求解无谓损失(作为  $T$  的函数), 绘制无谓损失与  $T$  的关系图。

**Solution:**

$$\text{无谓损失: } \frac{1}{2} * T * \left(150 - \frac{600 - 3T}{4}\right) = \frac{3T^2}{8}$$

