

Practice Questions
Introduction to Law & Economics
Answers in Red

Multiple Choice

1. The optimal number of murders is zero.

- (a) Yes;
- (b) No, because of enforcement costs;
- (c) No, because murder could be justifiable;
- (d) None of the above.

2. The court makes serious errors in measuring the injurer's care level. Hence,

- (a) A rule of strict liability is preferred;
- (b) A rule of negligence is preferred;
- (c) A rule of no liability is preferred;
- (d) A rule of contribution is preferred.

3. The victim's care determines the accident risk. Hence,

- (a) A rule of strict liability is preferred;
- (b) A rule of negligence is preferred;
- (c) A rule of no liability is preferred;
- (d) A rule of contribution is preferred.

4. The implication of the Coase Theorem for the choice of contract remedy for breach is

- (a) It is irrelevant the nature of the remedy if transaction costs are low;
- (b) Breach should not be allowed;
- (c) Breach should be mandatory;
- (d) None of the above.

5. Both buyer (Ms A) and seller (Mr B) of a house set the price of hundred thousand euros, 25% paid immediately and 75% paid upon delivery of keys and property registration. Before the date of delivery, Ms A calls Mr B saying she has discovered that a new chemical station will be constructed nearby which reduces the value of the house. The value of the house after the news to Ms A is two hundred thousand and to Mr B is eighty thousand euros. What is the efficient outcome?

- (a) The contract is not performed;
- (b) The contract is performed;
- (d) None of the above.

6. Suppose a factory emits pollutants that injure adjacent homeowners. The law will promote efficiency if it
- (a) creates an incentive for the factory to relocate to a different location if the harm it causes is greater than its profits.
 - (b) creates an incentive for homeowners to move to a different location if the cost of moving is less than the harm caused by the pollution.
 - (c) holds the factory liable for damages or enjoins it from polluting when the harm it cause is greater than its profits.
 - (d) holds the factory liable if the homeowners located there first and holds the factory harmless if it located there first.
 - (e) none of the above.
7. Economics predicts that negligence would be more efficient than strict liability
- (a) in alternative care situations.
 - (b) when injurers have more information about accident prevention than victims.
 - (c) when there are large differences among injurers in the costs of taking care.
 - (d) when a reduction in the victim's activity level is the efficient way to prevent an accident.
 - (e) when the cost of victim precautions is greater than the reduction in expected damages from these precautions.
8. The statement that best describes the difference between protecting entitlements by property rights or by liability rules is:
- (a) the harm is greater from violating an entitlement protected by a property right than one protected by a liability rule.
 - (b) both apply to high transaction cost settings but the remedy under a property right is an injunction while the remedy under a liability rule is damages.
 - (c) the cost of enforcing a property right exceeds the cost of enforcing a liability rule.
 - (d) property rights are good against all trespassers while liability rules apply only to parties unwilling to compensate victims in voluntary transactions.
 - (e) a property right approach assumes that a voluntary transaction is economical whereas a liability rule approach assumes that transactions costs prevent a voluntary transaction.
9. The statement that best describes the difference between negligence and comparative negligence is the following:
- (a) Since both rules create incentives for injurers and victims to take due care, the principal difference between the two relates to distribution effects and administrative costs when both parties are negligent.

- (b) Comparative negligence leads to a lower level of victim care than negligence because in the former a victim still recovers part of its damages even if he is contributorily negligent.
 - (c) Comparative negligence leads the parties to share more equally the costs of avoiding accidents which is beneficial for risk averse individuals.
 - (d) Negligence involves greater administrative costs than comparative negligence because in the former the court must decide both care levels and the amount of damages whereas in the latter it only has to apportion damages between the parties.
 - (e) Negligence is concerned with questions of economic efficiency while comparative negligence is concerned with distribution issues.
10. Suppose there is a chance that a child playing in the area of a construction project might fall in a large hole and injure itself. Constructing a fence around the project will prevent such an accident. Assume the harm from such an accident is \$100,000, the probability of an accident equals .01 during the construction period, the cost of a fence is \$5000, the contractor expects a profit of \$25,000, and all parties are risk neutral. Strict liability will be inefficient because
- (a) the contractor will install the fence which reduces expected wealth by \$5000.
 - (b) it creates no incentive for children or their parents to take efficient levels of care to avoid an accident.
 - (c) the contractor may shut the project down rather than face a potential liability of \$100,000.
 - (d) the contractor will install the fence under strict liability but not under negligence.
 - (e) all of the above.
11. When the government wants to build a highway that cuts across the property of many owners, the economic justification for eminent domain is it
- (a) overcomes high transaction costs caused by potential hold out problems.
 - (b) compensates land owners for the value of their property.
 - (c) reduces the incentive of property owners to make inefficient investments in their property.
 - (d) reduces the information costs that arise when the government doesn't appreciate land owners' subjective value of land
 - (e) all of the above.
12. B agrees to supply data processing services for A under a one year contract for \$12,000. B anticipates that the cost of providing these services will equal \$10,000. B's actual costs are \$8000, all of which B incurs during the first three months of the contract—i.e., B would incur no additional costs over the next 9 months. Six months after the contract is signed A cancels its contract. The efficient measure of damages is
- (a) lost profits of \$4000 since B's costs of \$8000 have already been incurred and therefore do not depend on whether or not A breaches the contract.
 - (b) expected profits of \$2,000 plus one-half of B's expected cost of \$10,000.

- (c) the contract price of \$12,000.
 - (d) \$5000 which equals the effective contract price for six months of service.
 - (e) none of the above.
13. Consider two law enforcement schemes, A and B, to control double parking. In A, the fine (F) for double parking equals \$20 and the probability of apprehension and conviction (P) equals .5, and in B, F equals \$200 and $P = .05$.
- (a) Society is indifferent between the two schemes for controlling double parking for they produce the same amount of fines from double parking.
 - (b) If offenders are risk neutral, society is indifferent between A and B for they produce the same level of deterrence.
 - (c) If offenders are risk averse, B causes more double parking violations and produces more revenues from fines than A.
 - (d) If offenders are risk neutral, the cost of deterring double parking is greater for A than B but the level of deterrence is the same.

In questions 14-17 'lottery A' refers to a lottery ticket that pays \$1,200 with a probability of 0.3, \$4,400 with a probability of 0.25, \$4,800 with a probability of 0.3, and \$10,000 with a probability of 0.15.

14. What is the expected value of lottery A?
- a. \$3050
 - b. \$4400
 - c. \$4500
 - d. \$7640
 - e. None of the above
15. If we know that Mark has paid \$5000 for lottery A, what can we conclude about his risk attitude?
- a. He is risk-seeking (i.e. risk-loving)
 - b. He is risk-averse and attaches a risk-premium of \$2640 to the lottery
 - c. He is risk-averse and attaches a risk-premium of \$600 to the lottery
 - d. He is risk-neutral
 - e. None of the above
16. If we know that Don has paid \$2000 for lottery A, what can we conclude about his risk attitude?
- a. He is risk-seeking (i.e. risk-loving)
 - b. He is risk-averse and attaches a risk-premium of \$2400 to the lottery
 - c. He is risk-averse and attaches a risk-premium of \$1050 to the lottery
 - d. He is risk-averse and attaches a risk-premium of \$2500 to the lottery
 - e. None of the above
17. Consider lottery B, which pays \$800 with a probability of 0.001, \$4400 with a probability of 0.998, and \$8000 with a probability of 0.001. Which of the following statements is true?

- a. A risk-loving individual is indifferent between lottery A and lottery B.
- b. A risk-loving individual who possesses lottery B would be willing to pay money to switch to lottery A.
- c. A risk-neutral person is not indifferent between lottery A and lottery B, he prefers lottery A to lottery B.
- d. A risk-averse person who possesses lottery B would be willing to pay money to switch to lottery A.
- e. None of the above.

18. Consider the simple settlement model, where both parties are risk neutral, have equal bargaining power, and

- If the Plaintiff (P) prevails in trial, the Defendant (D) will pay P \$25,000.
- If not, D will pay nothing.
- Litigation costs are \$2,000 for each party.
- Settling is costless.
- Both parties believe that P's likelihood of prevailing in trial is 20%.

Which of the following statements could be true?

- a. P and D will proceed to trial.
- b. P and D will settle, and P will pay D \$7,000.
- c. P and D will settle, and D will pay P \$5,000.
- d. P and D will settle, and D will pay P \$2,000.
- e. None of the above.

For questions 19-22 consider the following fact pattern (and assume every dollar amount refers to annual valuations):

Steve owns a factory whose smoke causes damage to the laundry hung outdoors by Mitch, a resident, on a piece of land adjacent to the factory. The damage to Mitch's laundry is \$2,000. This damage can be prevented in one of three ways: (i) Steve can stop operating the factory, (ii) Steve can install a smoke screen, or (iii) Mitch can stop hanging his laundry outdoors. Stopping the operation of the factory costs \$5,000, whereas having a smoke screen installed costs \$500. Mitch values hanging his laundry outside at \$3,000. Assume that courts are perfect (i.e. they do not make errors in finding facts), and that there are no strategic issues, transaction costs, or negative externalities to third parties.

19. What is the efficient (i.e. wealth maximizing) outcome?

- a. Mitch ceases to hang his laundry outdoors and Steve continues to operate his factory *without* installing a smoke screen.
- b. Mitch continues to hang his laundry outdoors and Steve continues to operate his factory *without* installing a smoke screen.
- c. Mitch continues to hang his laundry outdoors and Steve continues to operate his

factory *after* installing a smoke screen.

- d. Mitch continues to hang his laundry outdoors and Steve stops operating his factory *without* installing a smoke screen.
 - e. None of the above.
20. Mitch and Steve are reasonable people, and are therefore willing to openly and honestly negotiate on potentially re-allocating their rights through an enforceable (and costless to draft) contract. Assume Mitch has a property right to a smoke-free environment, and that litigation is costless. Which of the following is true?
- a. Once Mitch and Steve conclude their negotiations, Steve will install a smoke screen and will continue operating his factory, and Mitch will continue hanging his laundry outdoors.
 - b. Once Mitch and Steve conclude their negotiations, Steve will *not* install a smoke screen and will continue operating his factory, and Mitch will stop hanging his laundry outdoors.
 - c. Once Mitch and Steve conclude their negotiations, Steve will *not* install a smoke screen and will stop operating his factory, and Mitch will continue hanging his laundry outdoors.
 - d. Once Mitch and Steve conclude their negotiations, Steve will *not* install a smoke screen and will continue operating his factory, and Mitch will continue hanging his laundry outdoors.
 - e. None of the above.
21. Mitch and Steve are reasonable people, and are therefore willing to openly and honestly negotiate on potentially re-allocating their rights through an enforceable (and costless to draft) contract. Assume Steve has a property right to operating his factory and producing smoke, and that litigation is costless. Which of the following is true?
- a. Once Mitch and Steve conclude their negotiations, Steve will install a smoke screen and will continue operating his factory, and Mitch will continue hanging his laundry outdoors.
 - b. Once Mitch and Steve conclude their negotiations, Steve will *not* install a smoke screen and will continue operating his factory, and Mitch will stop hanging his laundry outdoors.
 - c. Once Mitch and Steve conclude their negotiations, Steve will *not* install a smoke screen and will stop operating his factory, and Mitch will continue hanging his laundry outdoors.
 - d. Once Mitch and Steve conclude their negotiations, Steve will *not* install a smoke screen and will continue operating his factory, and Mitch will continue hanging his laundry outdoors.
 - e. None of the above.

22. Which of the following is true?

- I. The initial allocation of rights affects whether Mitch and Steve reach the efficient outcome.
- II. The initial allocation of rights affects the final distribution of wealth among Steve and Mitch.
 - a. Only I.
 - b. Only II.**
 - c. I and II.
 - d. I and II are both false.

23. Consider a public beach just outside the city which becomes overcrowded and congested on summer weekends as people escape the heat of the city. From an economic standpoint

(a) Charging an admission fee for the beach would lead to a more efficient allocation of resources.

(b) Closing the beach after it becomes overcrowded would lead to a more efficient allocation of resources.

(c) Combining an admission charge with rules that close the beach after it becomes overcrowded would lead to a more efficient allocation of resources.

(d) All of the above.

(e) None of the above.

24. Suppose B accidentally causes a \$100 injury to A. Assume that if B had been negligent, A will prevail in a trial; and if B had taken due care, B will prevail. A, however, does not know whether B has taken due care and B cannot credibly convince A that he has taken due care. Assume further that each party's litigation costs of going to trial equals \$10. If B offers A \$10 to settle,

(a) A should accept the settlement if she believes it is equally likely that B has been negligent or taken due care.

(b) A should accept the settlement if she believes there is less than a 1 in 5 chance that B has been negligent.

(c) A should reject the settlement.

Essay problems

1. A factory owned by the Papers-R-Us Company is located upstream from the town of Smallville, population 6,000. The factory is leaking dangerous chemicals into the stream. The inhabitants of Smallville get their drinking water from the stream. The chemicals are causing headaches that cause the inhabitants to miss many days of work, resulting in each inhabitant losing an average of \$500 in wages each year.

The factory could install filters that reduce the leakage of the dangerous chemical. Installing this filter would cost the factory \$2 million a year. Alternatively, the inhabitants could install wells on their property that would not be affected by the factory's chemical leaks. Installing the wells would cost each inhabitant \$300 a year.

- A. What is the efficient solution? **Residents install wells for \$1.8 million**
- B. Assume the factory has no legal obligation to prevent chemical leaks. What will happen if there is no bargaining between the inhabitants and the factory?
Residents install wells for \$1.8 million
What will happen if there is bargaining? **Residents install wells for \$1.8 million**
What will be the amount of cooperative surplus from the bargain? **\$0**
- C. Assume that a court rules that the factory is responsible for its chemical leaks, so that it must either stop the leaking or pay each inhabitant for the loss of wages. What will happen if there is no bargaining between the inhabitants and the factory? **Factory installs filter for \$2 million**
What will happen if there is bargaining? **Factory pays residents to install wells for \$1.8 million (and divide surplus/savings)**
What will be the amount of cooperative surplus from the bargain? **\$200,000**
- D. In reality, the circumstances of this example may mean that the way the court rules will determine whether the efficient solution is reached. Explain why? **Lots of residents imply high transaction costs, so bargaining may not occur. Finding the factory not responsible for leaks will lead to the efficient outcome without bargaining.**

2. Frisbee Research Inc. has spent many years and hundreds of thousands of dollars working on a new Frisbee design. They have finally invented a shape of Frisbee that can hover above the ground for twice as long as standard frisbees. The new shape will likely be applicable to aircraft, creating aircraft that can also hover above the ground for longer periods. However, Frisbee Research Inc. has no knowledge of aircraft technology and will be unable to apply their design to this area. Frisbee Research Inc. applies for a patent for the new shape.

a. What is the economic reasoning behind patents? What are the advantages and disadvantages of patents? **To incentivize invention. Advantages: incentivize invention. Disadvantages: monopoly rights lead to higher prices and reduced applications**

b. The patent office could give Frisbee Research Inc. a narrow or a broad patent. Assume that selling the Frisbees with the new shape will earn Frisbee Research Inc. hundreds of thousands of dollars. Should the patent office give Frisbee Research Inc. a narrow or broad patent? Why? **Narrow patent. FRI has incentives to invent because they will make money from the Frisbees. Yet, a narrow patent will not prevent useful application of the discovery to aircraft technology.**

c. Does the breadth of the patent (narrow or broad) given to Frisbee Research Inc. affect the optimal duration of their patent? In this specific example, would a broad or a narrow patent have a shorter optimal duration? **A broad patent would have a shorter optimal duration because a broad patent would be preventing useful application for longer with few or no additional incentives to invent**

3. Everglades Tours, Inc. provides tours through the Everglades for school groups. Four months ago, this company was informed that a new highly infectious virus was rapidly spreading through the swamps of the Everglades. The information was not released to the public. Nevertheless, the company continued to run tours. During one tour, two students fell off the tour boats, contracted the virus, and spent months recovering in hospitals.

a. Explain which rule—strict liability, no liability, or negligence—would induce efficient precaution in the victims and injurer? Why? **Strict liability because only tour company can take precautions**

b. Would a rule of strict liability or a rule of negligence give the students incentives for the efficient amount of the activity level (riding on boats on virus-infested swamps)? Why? **Negligence because students are residual bearer of risk**

Would a rule of strict liability or a rule of negligence give Everglades Tours, Inc. incentives for the efficient amount of the activity level (taking tours to virus-infested swamps)? Why? **Strict liability because tour company is residual bearer of risk**

c. Suppose the judge that will hear the case is known to be injurer-friendly. That is, he often awards slightly lower damages to the defendant than the efficient amount that other judges would award. If the legal rule is strict liability, how will the judge's behavior affect future injurer's incentives to take precaution? **The injurers will take less care because the judge's error reduces the payoff from taking care (or reduces the marginal benefit of precautions)**

If the legal rule is negligence, how will the judge's behavior affect future injurer's incentives to take precaution? Why?

It will have no effect because even with small changes in damages, it is still optimal to take enough care to meet the legal standard of care.

d. Suppose the judge hearing the case frequently makes purely random errors in choosing the efficient legal standard to be applied in the case. That is, 50% of the time he chooses a legal standard that is too high and 50% of the time he chooses a legal standard that is too low, but the errors balance out so that the expected legal standard is the efficient one. If the legal rule is strict liability, how will the judge's behavior affect future injurer's incentives to take precaution? **The legal standard is irrelevant to strict liability**

If the legal rule is negligence, how will the judge's behavior affect future injurer's incentives to take precaution? Why? **Injurers will likely take more precautions because it will likely be cheaper to take more precaution than risk a finding of liability that results in a high damage award**

4. Ford Motor Company planned to equip its 2000 line of Explorers with Firestone tires. However, Ford conducted several crash tests prior to releasing the new line of Explorers and found that the tires increased the chances of rollovers during crashes, and in turn, the expected fatality rate. Ford's economists determine that it would cost \$600 to put new tires on each Explorer. Doing so would reduce the probability of death in a car accident by .0003. Currently, the value of life used in calculations by the court system and the government is \$3 million.
 - a. If Ford does not put new tires on the Explorers and there is a deadly car accident, would they be negligent under the Hand rule. Why? **Yes, they would be negligent because the B (\$600) < P*L (.0003*\$3,000,000)**
 - b. If the value of life used in calculations by the court system increased to \$4 million, what is the most expensive precaution that Ford would have to take in order to not be found negligent under the Hand Rule? **\$1,200 (.0003*\$4,000,000)**

5. You are an attorney representing a large developer of shopping centers. Your employer is contemplating building a shopping center in East Podunk. This will require obtaining a number of parcels of contiguous land, now owned by many separate people. You are asked for help in acquiring the land.
 - A. One strategy might be to approach the City Council and ask for help in using powers of eminent domain in acquiring the land. If you chose this strategy, what arguments would you make to the Council to justify this policy? What objections might the Council make to your arguments? **You will discuss that transaction costs will be high because there are so many residents to negotiate with and the threat of hold-outs is high. Hence a liability rule (eminent domain) is preferable to a property rule (which would require negotiation with each homeowner). You may also point out that the shopping center will benefit the entire community, thus it serves a public use**
 - B. Alternatively, you might not tell the city Council at all that you are planning on the shopping center. What alternative strategy might you use? Why would this strategy include not informing the city of your plans? **You may privately negotiate with each resident, but do not want to discuss your plans because then residents would have the incentive to hold out for more money**

6. Two robbers, Jack and Bob, are contemplating committing separate armed robberies (robbing fancy stores with a gun while people are in the store). Jack and Bob both believe that there is a 75% chance that they will be able to steal \$400,000 if they rob the stores. They plan to hide the money right away, so even if they are apprehended, they will be able to keep the money.

However, to commit the robbery, each will have to buy a \$100 gun. Jack believes that the probability he will be caught and convicted is 10%. If Jack is caught and convicted, he will serve 4 years in prison. During that 4 years, he will miss out on earning \$400,000 in legitimate income and he will miss being with his friends and family which is worth \$1,600,000 to him. Moreover, a first-time criminal conviction will reduce Jack's future earning potential after he gets out of prison. The present value of the decrease in his future earnings is \$1,000,000.

Because Bob has a known history of armed robbery, he believes that the probability that he will be caught and convicted is 25%. If Bob is caught and convicted, he will serve 10 years in prison (because he is a repeat offender). During that 10 years, he will miss out on earning \$400,000 in legitimate income and he will miss being with his friends and family which is worth \$1,000,000 to him. Since he is a repeat offender, the additional conviction will not worsen his future job prospects. In fact, prison may improve his future job prospects because he will be able to network with other criminals. Bob thinks that he will make more money with his new criminal friends after the 10 years in prison than he would have made if he hadn't gone to prison. The present value of the additional income is \$300,000.

What are the expected costs and benefits that Jack faces? If Jack is behaving rationally, would he rob the store? What are the expected costs and benefits that Bob faces? If Bob is behaving rationally, would he rob the store?

Jack MB: $.75 * \$400,000 = \$300,000$

Jack MC: $\$100 + .1 (\$400,000 + \$1,600,000 + \$1,000,000) = \$300,100$

Not rational for Jack to commit the crime

Bob MB: $(.75 * \$400,000) + (.25 * \$300,000) = \$375,000$

Bob MC: $\$100 + .25 (\$400,000 + \$1,000,000) = \$350,100$

Rational for Bob to commit the crime

7. Assume that every adult in a particular jurisdiction is eligible to serve as a juror. Panels of potential jurors are drawn by rotation from the qualified population. Currently, no jurisdiction allows someone called for jury service to hire a qualified replacement.

Would society be better off if people were allowed to engage in a market for jurors?

Explain?

Possible answers include a discussion of some of the following issues:

--more productive people with high opportunity costs can hire replacements, increasing society's production

--if juries are less representative of the general population, verdicts may not reflect society's values

--some people may specialize in serving on juries, become more expert jury members and lead to better case outcomes

--the entire endeavour may reduce respect for the justice system

--and many others

8. Assume that burglars correctly believe that many people in your neighborhood keep guns.

(a) How might this fact increase your security? **Burglars may be deterred from breaking into houses in your neighborhood**

(b) How might this fact endanger you? **If burglars do break in, they may bring a gun themselves to fight off gun-toting homeowners**

9. Explain how women wearing makeup could be an example of a prisoner's dilemma. **Women may be better off if no one wore makeup--their relative attractiveness would remain approximately constant but they wouldn't have to exert the work of putting on makeup. However, each woman has the incentive to "cheat" by wearing makeup. As a result, most women end up wearing makeup (at a monetary and time cost) without a change in relative attractiveness.**