**Ch12 Environment Protection - Negative Externalities**

**Multiple Choice Questions**

**1.** The term \_\_\_\_\_\_\_\_\_\_\_\_ refers to a market exchange that affects a third party who is outside or external to the exchange.

A. social costs

B. spillover

C. market failure

D. private costs

Answer: B Reference:

Explanation:

**2.** Using the term "spillover" is a less formal means of describing

A. an externality.

B. social costs.

C. private costs.

D. market failure.

Answer: A Reference:

Explanation:

**3.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ describes a situation where a third party, outside the transaction, suffers from a market transaction by others.

A. Negative externality

B. Positive externality

C. A spillover

D. A market failure

Answer: A Reference:

Explanation:

**4.** A positive externality arises in a situation where a third party, outside the transaction,

A. fails to allocate resources efficiently.

B. suffers from a market transaction by others.

C. benefits from a market transaction by others.

D. pays a pollution tax to balance social costs.

Answer: C Reference:

Explanation:

**5.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ include both the private costs incurred by firms and also costs incurred by third parties outside the production process.

A. Social costs

B. Private costs

C. Market costs

D. External costs

Answer: A Reference:

Explanation:

**6.** Market failure describes a situation in which the market itself \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a way that balances social costs and benefits.

A. remains outside the transaction

B. incurs the costs outside the production process

C. fails to allocate resources efficiently

D. avoids externalities

Answer: C Reference:

Explanation:

**7.** Command-and-control regulation is a body of law that

A. fails to consider private costs of firms.

B. specifies allowable quantities of pollution.

C. details which pollution-control technologies must be used.

D. can include both b and c.

Answer: D Reference:

Explanation:

**8.** A pollution charge is a form of tax imposed on

A. the quantity of pollution that a firm emits.

B. pollution control technologies.

C. every economy in the world.

D. low-income market-orientated industries.

Answer: A Reference:

Explanation:

**9.** Property rights are the legal rights of ownership on which others are

A. allowed to infringe by paying the property owner's pollution tax.

B. able to enforce use of pollution-control technologies.

C. able to specify allowable quantities of pollution.

D. not allowed to infringe without paying compensation.

Answer: D Reference:

Explanation:

**10.** Which of the following is used to describe the full spectrum of animal and plant genetic material?

A. ecodiversity

B. biodiversity

C. envirodiversity

D. duodiversity

Answer: B Reference:

Explanation:

**11.** Which of the following is an example of economic output that can injure the environment?

A. gold mine discharging arsenic into a natural lake it’s using for a tailings pond

B. paper mill discharging raw chemical waste into a river

C. excessive clear cutting of wood resources by logging companies

D. radio-active waste leaking into a river, and all of the above

Answer: D Reference:

Explanation:

**12.** The problem of pollution typically arises in \_\_\_\_\_\_\_\_\_\_\_\_\_\_ economies around the world.

A. high-income

B. low-income

C. high or low-income

D. middle income

Answer: C Reference:

Explanation:

**13.** The problem of pollution arises in primarily \_\_\_\_\_\_\_\_\_\_\_\_\_\_ economies around the world.

A. command-oriented

B. market-oriented

C. middle income

D. both a and b

Answer: D Reference:

Explanation:

**14.** Which of the following have historically been more willing to sacrifice their environmental quality for some additional economic output?

A. high-income, market-oriented economies

B. low incomes and command economies

C. the United States

D. European Union

Answer: B Reference:

Explanation:

**15.** Which of the following has become the least willing to sacrifice their environmental quality for some additional economic output?

A. the European Union

B. China

C. Ohio

D. command economies

Answer: A Reference:

Explanation:

**16.** Since 1969, when the Cuyahoga River in Ohio was so polluted that it spontaneously burst into flame, the overall quality of water in the U.S. has

A. steadily declined.

B. remained unchanged.

C. steadily improved.

D. remained a non-issue.

Answer: C Reference:

Explanation:

**17.** The number of people served by advanced wastewater treatment plants doubled between 1968 and the mid-1990s, but because the treatment plants \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the quantity of waste emitted into the water after treatment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. became so much more effective; decreased by about one-third

B. became so much less effective; increased by about one-third

C. remained ineffective; remained the same

D. moderately improved; increased by 10%

Answer: A Reference:

Explanation:

**18.** In addition to the current levels of air and water pollution, a list of important environmental issues would most likely include:

A. emissions of greenhouse gases

B. safe disposal of hazardous waste materials

C. destruction of wetlands and other habitats

D. extinction of species and all of the above

Answer: D Reference:

Explanation:

**19.** Around the world, the cities with the dirtiest air and water are typically found in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. high-income countries like France and the U.S.

B. in low-income African nations

C. low-income countries in Africa and Asia

D. in low-income East Asian nations

Answer: C Reference:

Explanation:

**20.** Which of the following will need to strike some balance between economic output and environmental quality as a prominent climate change priority?

A. countries with high-incomes

B. every country

C. market-oriented countries

D. command-oriented countries

Answer: B Reference:

Explanation:

**21.** Why would a typical U.S. business fail to take the social costs of pollution into consideration during the development of their operating strategies?

A. the range of flexible, market-oriented pollution control policies are flawed

B. government regulated the limits for how much pollutant can be emitted

C. it isn't required to pay any of the cost of cleaning up its pollution

D. it is following the principle of voluntary exchange of benefits

Answer: C Reference:

Explanation:

**22.** Traditionally, policies for environmental protection in the U.S. have focused on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pollutant could be emitted.

A. eliminating the risk that any

B. setting limits for how much of each

C. avoiding the risk that any air

D. eliminating the risk that a toxic

Answer: B Reference:

Explanation:

**23.** While the traditional approach of U.S. government policies for environmental protection has had some level of success, some economists are proposing a change to

A. a range of more flexible, market-oriented pollution control policies.

B. a range of polices stipulating set limits governing pollutant emissions.

C. stringent polices balance industry profit goals and environmental quality.

D. stringent polices that will return the environment to its former pristine quality.

Answer: A Reference:

Explanation:

**24.** Which of the following is viewed as a fundamental building block of the U.S. economic way of thinking?

A. the principle of setting high toxic emission limits to preserve a healthy environment

B. the belief that industry must be allowed to prevail over the environment

C. the needs of both parties to a voluntary exchange must be completely satisfied

D. the principle that a system of voluntary exchange benefits both parties

Answer: D Reference:

Explanation:

**25.** If you are highly asthmatic, then having high levels of industrial air pollutants waft over your house every day

A. is a voluntary exchange.

B. is positively a voluntary exchange.

C. would be a negative externality.

D. would be an external voluntary exchange.

Answer: C Reference:

Explanation:

**26.** Which of the following would be classified as a situation where a third party benefits from a market transaction by others?

A. City buying 10,000 trees for green space renewal projects.

B. Increased levels of air pollution in neighborhoods near a football stadium.

C. Allowing a mining company to use a natural lake to discharge waste.

D. Two firms trading pollution credits to avoid cutting their toxic emissions.

Answer: A Reference:

Explanation:

**27.** If pollutants are emitted into the air and water, what costs might be incurred as a result?

A. compromised recreation possibilities

B. decreased property values

C. loss from destruction of wildlife habitat

D. health injuries and all of the above

Answer: D Reference:

Explanation:

**28.** If a steel manufacturer considers the costs of labor and materials, as well as the broader costs of environmental injuries resulting from its manufacturing processes,

A. its supply curve will be based on perceived benefits of maximizing utility.

B. it is factoring in the social costs of the pollution it generates.

C. its demand curve will be based on production choices relating to marginal costs.

D. its costs will be the same as society's costs and all of the above.

Answer: B Reference:

Explanation:

**29.** If no externalities of pollution exist in a particular industry, the interaction of demand and supply \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. is based on benefits individuals perceive while maximizing utility

B. is based on choices about production relative to total average costs

C. will coordinate social costs and benefits

D. shifts so supply has no relation to social costs

Answer: C Reference:

Explanation:

**30.** If an externality of pollution exists for all manufacturers in a given industry, then all related social costs

A. are no longer represented in their supply curves.

B. continue to be represented in their supply curves.

C. are no longer represented in their demand curves.

D. continue to be represented in their demand curves.

Answer: A Reference:

Explanation:

**31.** Why do U.S. economists commonly refer to externalities as an example of market failure?

A. firms that are required to pay social costs of externalities produce more

B. externalities present a case where markets consider all social costs

C. externalities present a case where markets only consider some social costs

D. firms avoid having to pay social costs of externalities by lowering prices

Answer: C Reference:

Explanation:

**32.** Some economists argue that if privately owned firms were required to pay the social costs of their pollution, the result would be:

A. each would create less pollution

B. each would lower production to decrease pollution levels

C. their supply curves will represent all of those social costs

D. the price of goods will rise and a and b above

Answer: D Reference:

Explanation:

**33.** Because of the nature of the comprehensive environmental laws adopted during the late 1960s and early 1970s by the United States government, these laws are typically referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. positive regulations

B. command and control regulations

C. control and command regulations

D. negative regulations

Answer: A Reference:

Explanation:

**34.** The comprehensive environmental laws adopted during the late 1960s and early 1970s by the United States government

A. stipulated mandatory use of particular pollution-control technologies.

B. allowed pollution credits to be traded between polluters to avoid bearing social costs.

C. stipulated exemptions for industries that lobbied politicians hard to avoid regulation.

D. allowed industries to determine pollution levels based on profit margins.

Answer: A Reference:

Explanation:

**35.** To be effective, U.S. command-and-control environmental regulation required

A. social costs of industrial pollution to become unavoidable business costs.

B. firms to take the social costs of pollution into account.

C. firms to increase their costs by installing specified anti-pollution equipment.

D. the EPA to oversee all environmental laws and all of the above.

Answer: D Reference:

Explanation:

**36.** In the U.S., the command-and-control environmental laws of the early 1970s, together with the ensuing amendments and updates that have been made to them over time,

A. were necessary as US industries had zero incentive to control pollution.

B. were an inexpensive incentive for industrial polluters to improve performance.

C. are given considerable credit for cleaner air and water in recent decades.

D. draws distinctions between the needs of firms and costly equipment upgrades.

Answer: C Reference:

Explanation:

**37.** Which of the following would an economist identify as a difficulty relating to environmental command-control regulations?

A. high degree of inflexibility

B. clear distinctions drawn between firms

C. lack of incentive to reduce pollution

D. obvious lack of loopholes

Answer: A Reference:

Explanation:

**38.** While the U.S. command-and-control environmental regulations initiated in the 1970s have been very effective at reducing pollution, some economists have difficulty with the legislation because

A. it often requires different pollution-control technology for each polluter.

B. it usually requires different standards for all current and potential polluters.

C. it is full of fine print and exceptions, and costly for some firms to comply with.

D. it is not subject to compromises in the political process and all of the above.

Answer: C Reference:

Explanation:

**39.** The arguments presented by economists regarding U.S. environmental command-and-control regulations generally

A. accept the goal of reducing pollution.

B. question the regulations as being the best policy tools for meeting reduction goals.

C. assert that these laws are clear of the usual fine print, loopholes and exceptions.

D. lack flexibility and a and b above.

Answer: D Reference:

Explanation:

**40.** Market-oriented environmental tools \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for firms to take the social costs of pollution into account and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in reacting to these incentives.

A. draw distinctions; lower the social costs incurred

B. lack incentives; prohibit firms from having flexibility

C. create incentives; allow firms some flexibility

D. specify particular technology; lower the social costs incurred

Answer: C Reference:

Explanation:

**41.** The main categories of market-oriented approaches to pollution control are

A. redefined property rights; pollution permits; marketable charges.

B. marketable permits; better-defined property rights; pollution charges.

C. pollution charges; extended property rights; marketable permits.

D. pollution permits; defined property rights; marketable charges.

Answer: B Reference:

Explanation:

**42.** A pollution charge gives the trucking industry an incentive to reduce its emissions, as long as the \_\_\_\_\_\_\_\_\_\_\_\_\_ of reducing the emissions is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. total cost; less than the tax

B. total cost; equal to the social cost

C. marginal cost; less than the tax

D. marginal cost; equal to the social cost

Answer: C Reference:

Explanation:

**43.** The objective of imposing a higher pollution tax is to

A. ensure firms have pollution charge credits for all reduced emissions.

B. provide incentive for firms to maintain regulation emission levels.

C. provide adequate incentive for firms to reduce their emissions by more.

D. ensure firms must pay the pollution charge for all reduced emissions.

Answer: C Reference:

Explanation:

**44.** A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ would lead a large greenhouse gas emitter to reduce emissions by less.

A. flat charge

B. higher pollution tax

C. lower pollution tax

D. pollution tax

Answer: C Reference:

Explanation:

**45.** Those firms in the oil refining industry that can reduce pollution \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will do so \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. for a flat charge; at the industrial level

B. cheaply and easily; to minimize their pollution taxes

C. for a flat charge; with the most expensive technologies

D. cheaply and easily; with the most expensive technologies

Answer: B Reference:

Explanation:

**46.** If a glass manufacturer has only a few \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of reducing pollutants, it will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. costly ways; end up paying the pollution tax.

B. inexpensive ways; incur the pollution tax instead.

C. costly ways; do so to minimize its pollution taxes.

D. inexpensive ways; buy the most expensive technology.

Answer: A Reference:

Explanation:

**47.** The refundable charge of 5 or 10 cents for returning recyclable cans and bottles works like

A. an incentive to throw bottles and cans in the trash.

B. command-and-control regulation.

C. a market permit program.

D. a pollution tax incentive to avoid littering.

Answer: D Reference:

Explanation:

**48.** Certain schools of economic thought suggest that a \_\_\_\_\_\_\_\_\_\_\_\_\_ would reduce pollution in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, when compared to command-and-control regulation.

A. marketable permit; less cost-effective way

B. pollution tax; flexible, more cost-effective way

C. marketable permit; less flexible manner

D. pollution tax; less cost effective, but flexible way

Answer: B Reference:

Explanation:

**49.** If a government wants to establish a marketable permit program, it must begin by determining

A. how many permits will be issued in the overall market.

B. the overall price to be charged for each permit.

C. the overall quantity of a certain pollutant that will be allowed.

D. whether or not permits will be issued free of charge.

Answer: C Reference:

Explanation:

**50.** If a government chooses a system of marketable permits as its environmental managing tool, the reduction in pollution will

A. take place in the firms where it is least expensive to do so.

B. take place in every firm within the time set by the permit.

C. be initiated at the household level.

D. be rewarded with refundable charges.

Answer: A Reference:

Explanation:

**51.** The flexibility of marketable permits program developed for the oil refining industry is credited with achieving the reduction in lead pollution for \_\_\_\_\_\_\_\_\_\_ less cost than command-and-control regulation would have required.

A. at least 50%

B. 50%

C. 20%

D. at least 20%

Answer: D Reference:

Explanation:

**52.** Why was the Clean Air Act amended in 1990?

A. to reduce sulfur dioxide emissions from electric power plants to half of 1980 levels

B. so flat fees for excessive pollution could be determined by the federal government

C. to reduce sulfur dioxide emission through command-and-control regulations

D. to reduce sulfur dioxide emissions from electric power plants to half of 1970 levels

Answer: A Reference:

Explanation:

**53.** What type of environmental tool was adopted by the U.S. government in 1990, in order to reduce emissions of coal burning electricity-generating plants?

A. shrinkable marketable permits

B. free marketable permits

C. command-and-control permits

D. both a and b above

Answer: D Reference:

Explanation:

**54.** Environmentalist groups tend to prefer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A. command-and-control regulations; marketable permits

B. marketable permits; pollution charges

C. pollution taxes; marketable permits

D. marketable permits; monetary refunds

Answer: B Reference:

Explanation:

**55.** Environmentalist groups act to directly reduce of emissions by

A. allowing a limited amount of pollution to occur.

B. allowing a declining amount of pollution to occur.

C. buying marketable emission permits and not re-selling them.

D. buying, trading, and re-selling marketable emission permits.

Answer: C Reference:

Explanation:

**56.** An economist is more likely to identify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as a more efficient and flexible way for society to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. marketable permits; allow a limited, declining amount of pollution to occur

B. better defined property rights; to address issues of allowable levels of pollution

C. market-oriented environmental tools; enforce strict limits on emissions

D. better defined property rights; to shrink pollution levels over time

Answer: A Reference:

Explanation:

**57.** One concern that environmentalists have is that market-oriented environmental tools are

A. an inflexible took that won't reduce pollution levels.

B. an excuse to implement strict limits on emissions.

C. an excuse to allow pollution to be maintained or to grow.

D. able to achieve desired reductions in pollution at a lower cost.

Answer: C Reference:

Explanation:

**58.** Market-oriented environmental policies are \_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_ will work better in some situations than in others.

A. a tool-kit; specific tools

B. productive policies; some policies

C. inflexible; incentives to protect endangered species

D. flexible; the command-and-control approach

Answer: A Reference:

Explanation:

**59.** Marketable permits work best when there are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ permit holders who are highly interested in trading.

A. several dozen or a several hundred

B. less than a hundred

C. more than a thousand

D. a few dozen or a few hundred

Answer: D Reference:

Explanation:

**60.** Marketable permits can be viewed as a form of improved \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A. command-and-control regulations

B. property rights

C. refundable tax credits

D. flat fee pollution tax

Answer: B Reference:

Explanation:

**61.** When a government establishes a marketable permit program to address environmental pollution, it is actually issuing a form of

A. command-and-control regulation.

B. pollution tax.

C. permit to pollute.

D. inflexible, costly regulation.

Answer: C Reference:

Explanation:

**62.** The property rights approach to environmental issues often becomes highly relevant in cases involving \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A. greenhouse gas emissions

B. harmful affects of acid rain

C. endangered species

D. fresh water resources

Answer: C Reference:

Explanation:

**63.** In circumstances involving millions of emitters of small amounts of pollution who have no strong interest in trading, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will typically offer a better choice for achieving desired reductions of environmental pollution levels.

A. marketable permits

B. pollution charges

C. enhanced property rights

D. ecotourism

Answer: B Reference:

Explanation:

**64.** The International Ecotourism Society estimates that international tourists interested in seeing nature or wildlife spend over

A. $450 billion per year.

B. $550 billion per year.

C. $250 billion annually.

D. $200 billion annually.

Answer: A Reference:

Explanation:

**65.** Some of the leading ecotourism destinations include:

A. Costa Rica and Panama in Central America

B. Malaysia and the Galapagos Islands

C. the Serengeti in Tanzania; the Amazon rain forests

D. the Caribbean, New Zealand and all of the above

Answer: D Reference:

Explanation:

**66.** With respect to the benefits of clean air and water, which of the following would most likely be classified as being relatively easy to value in economic terms?

A. gains in farming, fishing and tourism

B. gains from lower levels of corrosion

C. gains in environmental enjoyment

D. all of the above are correct answers

Answer: A Reference:

Explanation:

**67.** When making decisions about what safety systems should be required in cars or airplanes, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will only approve rules where the estimated cost per life saved is \_\_\_\_\_\_\_\_\_\_ or less.

A. U.S. Senate; $5 million

B. U.S. Congress; $2 million

C. Environmental Protection Agency; $3 million

D. Environmental Regulation Agency; $7 million

Answer: C Reference:

Explanation:

**68.** A study by the Environmental Protection Agency looked at the costs and benefits of the Clean Air Act from 1970 to 1990. This study found that a middle-range estimate of the health and other benefits from cleaner air was $22 trillion. This amount was about \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the costs of reducing the pollution.

A. 10 time lower

B. 44 times higher

C. 10 times higher

D. 44 times lower

Answer: B Reference:

Explanation:

**69.** When the quantity of environmental protection is low so that pollution is extensive, then there are usually \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to reduce pollution and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. a few inexpensive and easy ways; average benefit are slightly higher

B. a lot of expensive and innovative methods; marginal benefits are quite high

C. only a few expensive and innovative methods; average benefits are higher

D. a lot of cheap and easy ways; marginal benefits of doing so are quite high

Answer: D Reference:

Explanation:

**70.** As environmental protection increases,

A. the biggest marginal benefits are achieved first, smaller marginal benefits follow.

B. inexpensive and easy methods of reducing pollution begin to dwindle.

C. the more costly and innovative methods can be readily avoided.

D. in addition to a and b above, the quality of environmental protection increases.

Answer: D Reference:

Explanation:

**71.** Rather than arguing over whether the ultimate goal is zero pollution or a reasonable level of pollution, the immediate focus should be to tackle the environmental issues where the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. marginal benefits are least; marginal costs are greatest

B. marginal benefits are greatest; marginal costs are least

C. environmental benefits are greatest; social costs are least

D. social costs are greatest; environmental benefits are least

Answer: B Reference:

Explanation:

**72.** The challenge of preserving biodiversity,

A. any nation itself can reduce emissions to solve global warming.

B. any nation acting alone can protect biodiversity around the world.

C. includes the full spectrum of animal and plant genetic material.

D. a nation can protect biodiversity within its own borders and c.

Answer: D Reference:

Explanation:

**73.** Bringing the nations of the world to act together in addressing environmental issues that spill over national borders requires \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between countries with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. a different approach to negotiations; similar income levels and sets of priorities

B. a difficult set of negotiations; different income levels and sets of priorities

C. a different approach to negotiations; low and middle-income levels.

D. deliberate negotiations; high-income levels and similar sets of priorities.

Answer: B Reference:

Explanation:

**74.** Low and middle-income societies correctly point out that high-income countries have historically

A. been the primary contributors to greenhouse warming.

B. been the primary contributors to reduced biodiversity.

C. failed to put environmental protection ahead of corporate profits.

D. legitimately lacked moral standing in addition to all the above.

Answer: D Reference:

Explanation:

**75.** If market-oriented environmental tools offer a mechanism or providing either the same environmental protection at lower cost, or providing a greater degree of environmental protection for the same cost, then this \_\_\_\_\_\_\_\_\_\_\_ will arise for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

A. spillover; market-oriented countries

B. trade-off; command-oriented countries

C. trade-off; all countries around the globe

D. spillover; only the high-income countries

Answer: C Reference:

Explanation:

**76.** A beekeeper decides to locate her business on a plot of land that is between an apple orchard and an elementary school. A negative externality that can result is

A. the cost of the bee hives to the beekeeper.

B. the possibility of the bees stinging the students at the school.

C. the bees helping to pollinate the orchard, leading to more fruit.

D. the honey the bees produce.

Answer: B Reference:

Explanation:

**77.** A beekeeper decides to locate her business on a plot of land that is between an apple orchard and an elementary school. A positive externality that can result is

A. the cost of the bee hives to the beekeeper.

B. the possibility of the bees stinging the students at the school.

C. the bees helping to pollinate the orchard, leading to more fruit.

D. the honey the bees produce.

Answer: C Reference:

Explanation:

**78.** The supply and demand conditions facing a firm that makes widgets and generates a negative externality by dumping a highly toxic sludge in a nearby river is given in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Price | Quantity Demanded | Quantity Supplied without Paying Social Costs | Quantity Supplied after Paying Social Costs |
| 100 | 0 | 120 | 75 |
| 80 | 10 | 100 | 50 |
| 55 | 30 | 90 | 30 |
| 40 | 55 | 85 | 25 |
| 30 | 80 | 80 | 20 |
| 20 | 100 | 65 | 15 |

The equilibrium price and quantity when only private costs are taken into account are

A. Price = $55, Quantity = 30

B. Price = $40, Quantity = 55

C. Price = $30, Quantity = 20

D. Price = $30, Quantity = 80

Answer: D Reference:

Explanation:

**79.** The supply and demand conditions facing a firm that makes widgets and generates a negative externality by dumping a highly toxic sludge in a nearby river is given in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Price | Quantity Demanded | Quantity Supplied without Paying Social Costs | Quantity Supplied after Paying Social Costs |
| 100 | 0 | 120 | 75 |
| 80 | 10 | 100 | 50 |
| 55 | 30 | 90 | 30 |
| 40 | 55 | 85 | 25 |
| 30 | 80 | 80 | 20 |
| 20 | 100 | 65 | 15 |

The equilibrium price and quantity when social costs are taken into account are

A. Price = $55, Quantity = 30

B. Price = $40, Quantity = 55

C. Price = $30, Quantity = 20

D. Price = $30, Quantity = 80

Answer: A Reference:

Explanation:

**80.** Kip and Yale run separate mining companies in the same forest. Both pollute the river flowing through the forest with debris from their work. In the table below, the first row shows the current level of debris that makes its way into the river from their work. The following table set out information that shows how much it would cost each company to reduce its pollution by additional increments of 10 pounds.

|  |  |  |
| --- | --- | --- |
|  | Kip | Yale |
| Current debris in pounds | 60 | 80 |
| Cost of reducing debris by 10 pounds | $5 | $2 |
| Cost of reducing debris by a second 10 pounds | $10 | $4 |
| Cost of reducing debris by a third 10 pounds | $15 | $6 |
| Cost of reducing debris by a fourth 10 pounds | $20 | $8 |
| Cost of reducing debris by a fifth 10 pounds | $25 | $10 |

If each mining company is forced to cut its debris in half, the respective cost to Kip and Yale will be

A. $5, $2

B. $10, $4

C. $30, $20

D. $30, $12

Answer: B Reference:

Explanation:

**81.**  Kip and Yale run separate mining companies in the same forest. Both pollute the river flowing through the forest with debris from their work. In the table below, the first row shows the current level of debris that makes its way into the river from their work. The following table set out information that show how much it would cost each company to reduce its pollution by additional increments of 10 pounds.

|  |  |  |
| --- | --- | --- |
|  | Kip | Yale |
| Current debris in pounds | 60 | 80 |
| Cost of reducing debris by 10 pounds | $5 | $2 |
| Cost of reducing debris by a second 10 pounds | $10 | $4 |
| Cost of reducing debris by a third 10 pounds | $15 | $6 |
| Cost of reducing debris by a fourth 10 pounds | $20 | $8 |
| Cost of reducing debris by a fifth 10 pounds | $25 | $10 |

If a system of tradable permits is introduced, the total cost of cutting current debris in half is

A. $40

B. $45

C. $50

D. $55

Answer: C Reference:

Explanation:

**82.** Carl and Don run separate chemical fertilizer manufacturing companies in the same industrial park. Both pollute the river flowing through the industrial park with waste from their manufacturing processes. In the table below, the first row shows the current level of waste that makes its way into the river from their respective operations. The table also sets out information that indicates how much it would cost each manufacturer to reduce its pollution by additional increments of 10 pounds.

|  |  |  |
| --- | --- | --- |
|  | Carl | Don |
| Current debris in pounds | 60 | 80 |
| Cost of reducing debris by 10 pounds | $5 | $2 |
| Cost of reducing debris by a second 10 pounds | $10 | $4 |
| Cost of reducing debris by a third 10 pounds | $15 | $6 |
| Cost of reducing debris by a fourth 10 pounds | $20 | $8 |
| Cost of reducing debris by a fifth 10 pounds | $25 | $10 |

If each company is required to reduce debris by exactly 20 pounds, the total cost will be

A. $7

B. $14

C. $21

D. $30

Answer: C Reference:

Explanation:

**83.** Carl and Don run separate chemical fertilizer manufacturing companies in the same industrial park. Both pollute the river flowing through the industrial park with debris and waste from their manufacturing processes. In the table below, the first row shows the current level of debris and waste each produces that makes its way into the river. The information in the table also indicates how much it would cost each manufacturer to reduce its pollution by additional increments of 10 pounds.

|  |  |  |
| --- | --- | --- |
|  | Carl | Don |
| Current debris in pounds | 60 | 80 |
| Cost of reducing debris by 10 pounds | $5 | $2 |
| Cost of reducing debris by a second 10 pounds | $10 | $4 |
| Cost of reducing debris by a third 10 pounds | $15 | $6 |
| Cost of reducing debris by a fourth 10 pounds | $20 | $8 |
| Cost of reducing debris by a fifth 10 pounds | $25 | $10 |

If the government imposes a pollution tax of $7 for each 10 pounds of debris, total pollution will fall by \_\_\_\_ pounds, at a total cost of \_\_\_\_.

A. 40; $28

B. 40; $17

C. 40; $22

D. 60; $30

Answer: B Reference:

Explanation:

**84.** Four companies, Alpha, Beta, Gamma and Delta, are burning coal to produce electricity. As a result, they also produce emissions. In the table below, the first row of shows the total pounds of emissions currently produced by each firm. The other rows of the table show the cost for each firm of reducing emissions by the first 50 tons, the second 50 tons, and so on.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Alpha | Beta | Gamma | Delta |
| Current production of emissions in tons | 150 | 300 | 450 | 600 |
| Cost of reducing emissions by first 50 tons | $20 | $6 | $25 | $7 |
| Cost of reducing emissions by second 50 tons | $25 | $12 | $31 | $8 |
| Cost of reducing emissions by third 50 tons | $30 | $18 | $39 | $9 |
| Cost of reducing emissions by fourth 50 tons | (no emissions left) | $24 | $49 | $10 |
| Cost of reducing emissions by fifth 50 tons | (no emissions left) | $30 | $51 | $11 |

The total cost of requiring each firm to reduce its garbage by one third is

A. $167

B. $137

C. $187

D. $127

Answer: A Reference:

Explanation:

**85.** Four companies, Alpha, Beta, Gamma and Delta, are burning coal to produce electricity. As a result, they also produce emissions. The first row of the table below shows the total pounds of emissions currently produced by each firm. The other rows of the table show the cost for each firm of reducing emissions by the first 50 tons, the second 50 tons, and so on. The government wants to reduce emissions by one third, and does so by issuing marketable permits based on the current level of emissions where the permits will shrink the allowable amount of pollution by one third.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Alpha | Beta | Gamma | Delta |
| Current production of emissions in tons | 150 | 300 | 450 | 600 |
| Cost of reducing emissions by first 50 tons | $20 | $6 | $25 | $7 |
| Cost of reducing emissions by second 50 tons | $25 | $12 | $31 | $8 |
| Cost of reducing emissions by third 50 tons | $30 | $18 | $39 | $9 |
| Cost of reducing emissions by fourth 50 tons | (no emissions left) | $24 | $49 | $10 |
| Cost of reducing emissions by fifth 50 tons | (no emissions left) | $30 | $51 | $11 |

Alpha will reduce emissions by \_\_\_\_ tons, Beta will reduce emissions by \_\_\_\_ tons, Gamma will reduce emissions by \_\_\_\_ tons, Delta will reduce emissions by \_\_\_\_ tons, for a total cost of \_\_\_\_.

A. 50, 150, 50, 250, $130

B. 50, 200, 0, 250, $150

C. 0, 200, 50, 250, $120

D. 50, 200, 50, 200, $100

Answer: B Reference:

Explanation:

**86.** Michigan (MI) and Wisconsin (WI) both border Lake Michigan. Both states pollute Lake Michigan and both states suffer the consequences of the pollution. However, the two states face a prisoner’s dilemma of the sort studied in Chapter 12. Each country must decide whether to protect or not to protect Lake Michigan from pollution. The payoffs from the choices are shown in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Michigan | |
|  |  | Protect | Not Protect |
| Wisconsin | Protect | WI gains 500  MI gains 500 | WI loses 300  MI gains 600 |
| Not Protect | WI gains 600  MI loses 300 | WI loses 250  MI loses 250 |

From the table, we know that if Wisconsin chooses to protect the lake, Michigan will choose to \_\_\_\_\_\_ the lake. If Wisconsin chooses to not protect the lake, Michigan will choose to \_\_\_\_\_\_ the lake

A. protect, protect

B. not protect, protect

C. protect, not protect

D. not protect, not protect

Answer: D Reference:

Explanation:

**87.** Michigan (MI) and Wisconsin (WI) both border Lake Michigan. Both states pollute Lake Michigan and both states suffer the consequences of the pollution. However, the two states face a prisoner’s dilemma of the sort studied in Chapter 12. Each country must decide whether to protect or not to protect Lake Michigan from pollution. The payoffs from the choices are shown in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Michigan | |
|  |  | Protect | Not Protect |
| Wisconsin | Protect | WI gains 500  MI gains 500 | WI loses 300  MI gains 600 |
| Not Protect | WI gains 600  MI loses 300 | WI loses 250  MI loses 250 |

From the table, we know that the outcome of this game will be

A. neither state choosing to protect the lake

B. Wisconsin choosing to not protect the lake, Michigan choosing to protect the lake

C. Wisconsin choosing to protect the lake, Michigan choosing to not protect the lake

D. both states choosing to protect the lake

Answer: A Reference:

Explanation:

**88.** Two logging companies are deciding whether or not to cut down a significant portion of a particular forest that both have access too. Both companies understand the environmental consequences of their actions, knowing that they are trading off higher profits for a better outcome from society’s point of view. The payoffs facing these companies are given in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Company 2 | |
|  |  | Cut | Do Not Cut |
| Company 1 | Cut | 1 loses 10  2 loses 10 | 1 gains 30  2 loses 20 |
| Do Not Cut | 1 loses 200  2 gains 30 | 1 gains 20  2 gains 20 |

From the table, we know that if Company 2 chooses to cut, Company 1 will choose to \_\_\_\_\_\_ the forest. If Company 2 chooses to not cut, Company 1 will choose to \_\_\_\_\_\_ the forest.

A. cut, do not cut

B. cut, cut

C. do not cut, do not cut

D. do not cut, cut

Answer: B Reference:

Explanation:

**89.** Two logging companies are deciding whether or not to cut down a significant portion of a particular forest that both have access too. Both companies understand the environmental consequences of their actions, knowing that they are trading off higher profits for a better outcome from society’s point of view. The payoffs facing these companies are given in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Company 2 | |
|  |  | Cut | Do Not Cut |
| Company 1 | Cut | 1 loses 10  2 loses 10 | 1 gains 30  2 loses 20 |
| Do Not Cut | 1 loses 200  2 gains 30 | 1 gains 20  2 gains 20 |

From the table, we know that the outcome of this game will be

A. neither Company choosing to cut the forest

B. Company 1 choosing to cut, Company 2 choosing not to cut

C. Company 2 choosing to cut, Company 1 choosing not to cut

D. both companies choosing to cut the forest

Answer: D Reference:

Explanation:

**90.** A country is currently creating 40 million tons of toxic waste per year. The table below shows the marginal costs and benefits of reducing the amount of toxic waste to various amounts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Total Cost (in thousands of dollars) | Total Benefits (in thousands of dollars) | Marginal Cost | Marginal Benefit | Total Benefit Minus Total Cost |
| 40 million tons | Current situation | Current situation | -- | -- | -- |
| 30 million tons | 50 | 800 | 50 | 800 | Gain of 750 |
| 20 million tons | 150 | 1,300 | 100 | 500 | Gain of 1,150 |
| 10 million tons | 500 | 1,850 | 350 | 350 | Gain of 1,350 |
| 0 tons | 1,200 | 2,000 | 700 | 150 | Gain of 800 |

What level of toxic waste should the country reduce to?

A. 30 million tons

B. 20 million tons

C. 10 million tons

D. 0 tons

Answer: C Reference:

Explanation:

**91.** A country is currently creating 40 million tons of toxic waste per year. The table below shows the marginal costs and benefits of reducing the amount of toxic waste to various amounts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Total Cost (in thousands of dollars) | Total Benefits (in thousands of dollars) | Marginal Cost | Marginal Benefit | Total Benefit Minus Total Cost |
| 40 million tons | Current situation | Current situation | -- | -- | -- |
| 30 million tons | 50 | 800 | 50 | 800 | Gain of 750 |
| 20 million tons | 150 | X | 100 | 700 | Gain of 1,350 |
| 10 million tons | 500 | 1,850 | 350 | 350 | Gain of 1,350 |
| 0 tons | 1,200 | 2,000 | 700 | 150 | Gain of 800 |

What number belongs in place of X?

A. 700

B. 900

C. 1300

D. 1500

Answer: D Reference:

Explanation:

**92.** Ireland and England both fish in the Irish Sea. If this sea is over-fished, the fish stocks will fall and fish will eventually become extinct. Both countries have to decide whether to fish a lot or a little. The payoffs are given in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | England | |
|  |  | Little | Lot |
| Ireland | Little | Ireland gains 5  England gains 5 | Ireland loses 10  England gains 6 |
| Lot | Ireland gains 6  England loses 10 | Ireland loses 5  England loses 5 |

The outcome of this game is \_\_\_\_\_\_\_\_ , which illustrates the \_\_\_\_\_\_\_\_\_ .

A. both countries choosing to fish a little, prisoners dilemma

B. both countries choosing to fish a lot, externalities

C. both countries choosing to fish a lot, prisoner’s dilemma

D. both countries choosing to fish a little, externalities

Answer: C Reference:

Explanation:

**93.** Bulgaria primarily produces two goods, nesting dolls and grapes. The production of both goods primarily requires labor. The following table shows possible combinations of nesting dolls and grapes.

|  |  |  |
| --- | --- | --- |
|  | Nesting Dolls  (measured in thousands) | Bushels of Grapes  (measured in thousands) |
| A | 10 | 6 |
| B | 3 | 40 |
| C | 8 | 30 |
| D | 3 | 60 |
| E | 5 | 15 |

Suppose Bulgaria prefers grapes. Which of the following points is better?

A. A

B. B

C. C

D. E

Answer: B Reference:

Explanation:

**94.** Bulgaria primarily produces two goods, nesting dolls and grapes. The production of both goods primarily requires labor. The following table shows possible combinations of nesting dolls and grapes.

|  |  |  |
| --- | --- | --- |
|  | Nesting Dolls  (measured in thousands) | Bushels of Grapes  (measured in thousands) |
| A | 10 | 6 |
| B | 3 | 40 |
| C | 8 | 30 |
| D | 3 | 60 |
| E | 5 | 15 |

Which of the following points is more likely to represent a market-oriented policy?

A. E

B. C

C. all points

D. none

Answer: A Reference:

Explanation:

**95.** Bulgaria primarily produces two goods, nesting dolls and grapes. The production of both goods primarily requires labor. The following table shows possible combinations of nesting dolls and grapes.

|  |  |  |
| --- | --- | --- |
|  | Nesting Dolls  (measured in thousands) | Bushels of Grapes  (measured in thousands) |
| A | 10 | 6 |
| B | 3 | 40 |
| C | 8 | 30 |
| D | 3 | 60 |
| E | 5 | 15 |

Which of the following points is not feasible?

A. A

B. B

C. C

D. D

Answer: D Reference:

Explanation:

**96.** 35. Two rubber companies, Boing and Twang, are currently producing along, and polluting, the same river. Both companies are considering whether to install pollution filters on their factories. These filters cost $15 million each. If a filter is installed, there is a benefit of $20 million, but this benefit is divided equally between the two companies. If both firms install the filters, then Boing will earn \_\_\_\_\_\_\_\_ and Twang will earn \_\_\_\_\_\_\_\_ .

A. $0 million, $0 million

B. -$5 million, -$5 million

C. $5 million, $5 million

D. $10 million, $10 million

Answer: C Reference:

Explanation:

**97.** 36. Two rubber companies, Boing and Twang, are currently producing along, and polluting, the same river. Both companies are considering whether to install pollution filters on their factories. These filters cost $15 million each. If a filter is installed, there is a benefit of $20 million, but this benefit is divided equally between the two companies. In the absence of any government intervention or agreement between the firms,

A. both firms will install filters

B. Boing will install a filter, Twang will not

C. Twang will install a filter, Boing will not

D. neither firm will install a filter

Answer: D Reference:

Explanation:

**Essay Questions**

1. Briefly explain what market-oriented environmental tools offer.

Reference:

Explanation: Market-oriented environmental tools offer a mechanism either for providing either the same environmental protection at lower cost, or providing a greater degree of environmental protection for the same cost.

Type: Essay

2. Briefly explain what is meant by the term "externality" and how it occurs.

Reference:

Explanation: An externality, which is sometimes also called a spillover, can have a negative or a positive impact on the third party. An externality occurs when an exchange between a buyer and seller has an impact on a third party who is not part of the exchange.

Type: Essay

3. Briefly explain what would happen if parties imposing a negative externality on others had to take the board social cost into account.

Reference:

Explanation: If those parties imposing a negative externality on others had to take the broader social cost of their behavior into account, they would have an incentive to reduce the production of whatever is causing the negative externality.

Type: Essay

4. Briefly explain how command-and-control regulation works.

Reference:

Explanation: Command-and-control regulation sets specific limits for pollution emissions and/or specific pollution-control technologies that must be used.

Type: Essay

5. Briefly discuss the shortcomings of environmental command-and-control regulations.

Reference:

Explanation: Although environmental command-and-control regulations have helped to protect the environment, they have three shortcomings: they provide no incentive to go beyond the limits they set; they offer limited flexibility in where and how pollution will be reduced; and they often have politically motivated loopholes.

Type: Essay

6. Provide examples of market-oriented environmental policies.

Reference:

Explanation: Examples of market-oriented environmental policies include pollution charges; marketable permits; and better defined property rights.

Type: Essay

7. Identify and briefly explain what market-orinted environmental policies make use of in order to reduce pollution.

Reference:

Explanation: Market-oriented environmental policies use taxes, markets, and property rights so that those who impose negative externalities must face the social cost.

Type: Essay

8. Briefly explain the likely results of increasing the extent of environmental regulation.

Reference:

Explanation: As the extent of environment regulation increases, additional expenditures on environmental protection will probably have increasing marginal costs and decreasing marginal benefits. This pattern suggests that the flexibility and cost savings of market-oriented environmental policies will become more important.

Type: Essay

9. Give examples of global environmental issues that affect national borders and briefly explain how these issues are addressed.

Reference:

Explanation: Certain global environmental issues, like global warming and biodiversity, spill over national borders and will need to be addressed with some form of international agreement.

Type: Essay

10. Briefly discuss how different income levels and political preferences will likely affect choices about allocative efficiency and productive efficiency in a global context.

Reference:

Explanation: Based on their different income levels and political preferences, countries are likely to make different choices about allocative efficiency, which is the choice between economic output and environmental protection along the production possibility frontier. However, all countries should prefer to make a choice that shows productive efficiency, which is, the choice is somewhere on the production possibility frontier rather than inside it.

Type: Essay