

1. Which of the following concerning the advantages and disadvantages of conventional price theory as a framework for analysis of transportation pricing is correct?
 - ☒ a. price theory describes the effect of changes in transportation supply and demand on transportation prices and outputs
 - b. price theory indicates that as transport competition increases, transport prices will increase
 - c. price theory is intended to analyze the prices of multi-product firms whereas transportation carriers are single product firms
 - d. price theory is solely intended to analyze regulated prices whereas transportation prices have never been regulated
 - e. price theory is a good framework for transportation pricing since price theory assumes all transport costs are joint or non-joint common costs
2. Which of the following transportation cost definitions is correct?
 - a. separable costs are not directly assignable to particular transportation services
 - b. variable costs are costs that are similar to non-joint common costs
 - c. variable costs are costs that vary inversely with ton-miles
 - ☒ d. joint common costs occur in transportation backhauls
 - e. non-joint common costs are costs that are directly assignable to particular transportation movements (services)
3. Which of the following regarding vehicle economies is correct?
 - a. larger vehicle combinations decrease the average transport cost per ton-mile, and result in faster transit time and more frequent service
 - b. as more vehicles are added to a vehicle combination, the marginal transport cost of each additional vehicle increases
 - ☒ c. vehicle combinations make it possible for railroads and water carriers to adjust transportation supply to short run changes in transport demand
 - d. TOFC/COFC movements exploit the long haul cost economies of motor carriers with the short haul cost economies of railroads
 - e. the ability to separate power units and vehicles has no impact on the number of and utilization of power units a transportation firm employs
4. Which of the following concerning natural monopoly pricing is correct?
 - a. AC price is the profit maximizing price
 - ☒ b. MC pricing results in the allocative efficient price and output but would eventually bankrupt the firm
 - c. AC pricing will result in the social optimum price and output (i.e., allocative efficiency)
 - d. MC intersects AC to the left of the demand curve
 - e. MC price is the profit maximizing price

5. In the short run, it is impossible for an expansion in output to cause an increase in:
- AVC
 - MC
 - ATC
 - TVC
 - ☒ AFC
6. Suppose a transport firm is using differential pricing and transports goods with the following price elasticities of demand for transportation, (A) 0.78, (B) 2.63 (C) 1.83, (D) 2.33, and (E) 1.52. For which type of good will the firm price above the fully allocated cost price?
- E
 - ☒ A
 - C
 - B
 - D
7. Which of the following concerning differential pricing is correct?
- ☒ under differential pricing, the price inelastic shippers pay most of the transportation firm's fixed costs
 - under differential pricing, the price inelastic shippers pay less of the transportation firm's fixed costs than the price elastic shippers
 - under differential pricing, the variable costs of the transportation firm are assigned to the price inelastic shippers while all the fixed costs are assigned to the price elastic shippers
 - fully allocated cost pricing is more profitable than differential pricing in terms of allocating fixed and common costs among shipments and shipper groups
 - under differential pricing, the fixed costs of the transportation firm are allocated equally across shipper groups with varying price elasticities of demand for transport
8. Which of the following regarding the market performance of pure competition and monopolistic competition is correct?
- in pure competition, allocative efficiency is achieved but not productive efficiency
 - in monopolistic competition, productive efficiency is achieved but not allocative efficiency
 - in monopolistic competition, both allocative and productive efficiency are achieved
 - in pure competition, neither allocative nor productive efficiency is achieved
 - ☒ allocative and productive efficiency is achieved in pure competition but neither is achieved in monopolistic competition

9. Compared to the total revenue of fully allocated cost prices:
- a. a price above fully allocated cost price will result in higher total revenue if transport demand is price elastic
 - b. a price below fully allocated cost price will result in the same total revenue as the fully allocated cost price if demand is price elastic
 - c. a price below fully allocated cost price will result in higher total revenue if transport demand is price inelastic
 - ☒ d. a price below fully allocated cost price will result in higher total revenue if transport demand is price elastic
 - e. a price below fully allocated cost price will result in lower total revenue if transport demand is price elastic
10. Which of the following concerning class rates is correct?
- a. products that have a high value/weight ratio generally have low class rates
 - b. products with a high weight per cubic foot (density) usually receive higher class rates
 - ☒ c. the greater the distance of the shipment, the higher the class rate
 - d. fragile or easily damaged goods generally receive a low class rate
 - e. class rates are determined by price elasticity of demand for transportation
11. Which of the following concerning the impact of an increase in railroad traffic density on railroad demand and railroad price is most likely to occur?
- a. railroad demand decreases causing a decrease in railroad price
 - b. railroad demand increases causing a decrease in railroad price
 - c. traffic density has no impact on railroad demand and price
 - ☒ d. railroad demand increases causing an increase in railroad price
 - e. railroad demand decreases but railroad price is unaffected
12. Which of the following concerning character of shipment rates is correct?
- a. railroad and motor carrier rates for TOFC/COFC are not exempt from state and Federal government economic regulation.
 - ☒ b. LTL rates are generally higher than TL rates because LTL costs are higher than TL.
 - c. unit train rates are rail rates that apply to rail shipments of frozen food, steel, lumber, and paper products.
 - d. blanket rates are used primarily by motor carriers to give shippers an incentive to ship more freight at one time, i.e., full truckloads
 - e. incentive rates apply only to railroad shipments of 100 cars or more between a single origin and destination and the cars always remain together as a single unit

13. Which of the following concerning area, location, and route rates is correct?
- a. joint rates apply to movements on a single carriers system
 - b. group rates are rates that apply from a specific origin point to a specific destination point
 - ☒ c. local rates are rates that apply to shipments on a single carriers system
 - d. water compelled rates are rates that apply to barge shipments on the inland waterways
 - e. local rates are rates that apply to transport movements of 100 to 150 miles
14. Suppose that demand decreases in the freight users product market. Which of the following is most likely to occur in the freight transportation market?
- ☒ a. the demand for freight transportation will decline causing a decrease in the price per ton-mile and a decrease in the number of ton-miles
 - b. the supply of freight transportation will decrease causing an increase in the price per ton-mile and a decrease in ton-miles
 - c. there will be no change in the freight transportation market since it is unrelated to the product market
 - d. both the demand and supply of freight transportation will decrease causing a decrease in the price per ton-mile and a decrease in ton-miles
 - e. the demand for freight transportation will decrease and the supply of freight transportation increases causing an indeterminate effect on ton-miles and price per ton-mile
15. Suppose producers at production points A and B are producing a homogenous good and are competing for sales in a common market, C. Also assume that production point A is 400 miles from C, while production point B is 800 miles from C. Which of the following is most likely to occur as a result of production point competition under any circumstances?
- a. the railroad serving the B - C route will charge a price per carload for the homogenous good that is 50 percent higher than the railroad serving the A - C route
 - b. the shippers located at point B won't be able to sell their product in market C
 - c. the railroad serving the B - C route will practice differential pricing while the railroad serving the A - C route will not
 - d. the price per carload of the railroad serving the B - C route will be double that of the railroad serving the A - C route
 - ☒ e. the railroad serving the B - C route will set the same price per carload for the homogenous good as the railroad serving the A - C route

16. Which of the following concerning the effect of commodity and route cost factors on transportation prices is correct?
- a. there is a direct relationship between product density (weight per cubic foot) and carrier price
 - b. there is an inverse relationship between shipment distance and carrier price
 - c. there is a direct relationship between shipment predictability and carrier price
 - ☒ d. there is an inverse relationship between railroad traffic density and railroad price when traffic density is considered to be a cost factor rather than a demand factor
 - e. there is an inverse relationship between the potential for damage of the shipment and carrier price
17. Which of the following regarding the effect of commodity and route demand factors on transportation prices is correct?
- ☒ a. there is a direct relationship between railroad traffic density and railroad price when traffic density is considered to be a demand factor rather than a cost factor
 - b. there is an inverse relationship between the value/weight ratio and carrier price
 - c. there is a direct relationship between the degree of competition on the route and carrier price
 - d. to maximize profits, carriers charge shippers of competing (substitute) commodities different prices
 - e. there is no relationship between the degree of competition on the route and carrier prices
18. Which of the following concerning TL and LTL motor carriers is correct?
- a. TL motor carriers have a higher percent of fixed costs than LTL motor carriers
 - b. LTL motor carrier rates are lower than TL rates
 - ☒ c. TL carriers usually pickup one shipment at the origin and deliver it to one buyer at the destination with no intermediate stop at a terminal
 - d. TL motor carriers consolidate many small shipments at the origin for delivery to many buyers at the destination
 - e. TL motor carriers require an extensive system of terminals to facilitate multiple handlings of shipments
19. Which of the following concerning the market structure of the motor carrier industry is correct?
- a. the motor carrier industry has high barriers to entry due to a capital intensive production function
 - ☒ b. the motor carrier market structure most closely resembles the monopolistic competition market structure
 - c. for the motor carrier industry, intramodal competition is intense, but there is no intermodal competition
 - d. the motor carrier market structure most closely resembles the pure competition market structure
 - e. the market structure of the motor carrier industry indicates that the industry is characterized by substantial economies of scale

20. Which of the following regarding motor carrier service is correct?
- a. motor carrier safety performance is considered to be worse than that of railroads
 - b. the technology of trucking is unrelated to its transit time performance
 - c. motor carrier transit time is more than that of airlines for hauls of 500 miles or less
 - d. motor carrier capability is considered to be poor due to a limited number of equipment types
 - ☒ e. motor carrier accessibility performance exceeds that of every other mode
21. Suppose that there is a large increase in the fuel cost of LTL motor carriers that substantially increases fuel cost per ton-mile. Which of the following is most likely to occur in the LTL industry (other things equal)?
- a. both the demand and supply of the LTL industry would decrease, causing a decrease in ton-miles and an indeterminate effect on price per ton-mile
 - ☒ b. the supply of the LTL industry would decrease, causing an increase in price and a decrease in ton-miles
 - c. the demand of the LTL industry would decrease, causing a decrease in price and ton-miles
 - d. the supply of the LTL industry would increase, causing a decrease in price per ton-mile and an increase in ton-miles
 - e. both the demand and supply of the LTL industry would increase, causing an increase in ton-miles and an indeterminate effect on price per ton-mile
22. Which of the following regarding motor carrier cost structure is correct?
- ☒ a. most motor carrier costs are variable due partly to labor intensive production, and the large market of used trucking equipment
 - b. most motor carrier costs are fixed since the industry is capital intensive and characterized by factor indivisibilities
 - c. most motor carrier costs are fixed since they have no investment in the highway system
 - d. the principal variable cost of motor carriers is vehicle maintenance cost
 - e. the principal variable cost of motor carriers is insurance
23. Which of the following regarding motor carrier terminals is correct?
- a. consolidated truckloads flow into and out of TL carrier break bulk terminals
 - b. LTL motor carriers employ PUD terminals to comply with federal safety regulations
 - ☒ c. the primary function of PUD terminals is shipment consolidation and shipment dispersion
 - d. TL carriers have greater investment in PUD, relay, and break bulk terminals than LTL carriers
 - e. LTL carrier break-bulk terminals are located at the edges of motor carrier service areas

24. Which of the following concerning railroad mergers is correct?
- a. shippers are likely to realize the same saving in inventory and stock-out costs regardless if the merger is end-to-end or parallel
 - b. shippers are more likely to benefit from a parallel merger than an end-to-end merger
 - c. shippers are more likely to realize stock-out cost saving due to reduced transit time as a result of a parallel merger
 - d. shippers are more likely to achieve reduced transport record keeping costs as a result of a parallel merger
 - ☒ e. shippers are more likely to realize inventory holding cost saving due to reduced transit time as a result of an end-to-end merger
25. Which of the following regarding railroad traffic is correct?
- a. railroads own 80 percent of the rail cars
 - b. the fastest growing rail markets since 1980 have been lumber and paper
 - c. rail tonnage of grain exceeds rail coal tonnage
 - ☒ d. railroads specialize in transporting low value commodities, shipped in large volumes over long distances
 - e. railroads specialize in short hauls of low valued bulk commodities, shipped in large volumes
26. Which of the following regarding railroad service comparison to motor carriers and water carriers is correct?
- a. railroad transit times are less than that of motor carriers (i.e., rail is faster) for all shipment distances
 - ☒ b. railroad capability performance is better than water carriers
 - c. the rail industry has better accessibility than motor carriers
 - d. water carriers have better accessibility than railroads
 - e. railroads have lost market share to motor carriers because of lack of investment in computerization
27. Based on a study by Michael Babcock of shippers located on Kansas and Iowa short line railroads, which of the following is correct?
- a. both grain and non-grain shippers rate their shortlines as better than motor carriers with regard to frequency of service, dependability of transit time, and transit time
 - b. both grain and non-grain shippers rate their shortlines as worse than motor carriers on prices
 - c. when the entire shipper sample is considered, more shippers prefer the price and service of Class I railroads than any other mode
 - d. both grain and non-grain shippers rate the price and service performance of their former Class I railroad as better than that of their shortlines
 - ☒ e. when the entire shipper sample is considered more shippers prefer the price and service of shortlines than any other mode

28. Which of the following concerning the growth of railroad TOFC/COFC traffic is correct?
- a. COFC growth is partly due to growth of United Parcel Service (UPS)
 - b. TOFC traffic growth is partly due to development of the double stack rail car
 - ☒ c. COFC growth is partly due to growth of U.S. imports from Pacific Rim countries
 - d. TOFC growth is partly due to good transit times and time reliability on railroad long hauls, but these two factors have had no effect on COFC growth
 - e. COFC growth is partly due to partnership agreements between large truckload motor carriers and railroads
29. Which of the following concerning trends in the railroad cost structure since 1980 is correct?
- ☒ a. the percent of rail costs that is fixed has increased because labor cost as a percent of rail revenue has fallen
 - b. there has been no change in the railroad cost structure since 1980 since the growth of rail fixed and variable costs has been identical
 - c. the percent of rail costs that is variable has increased because of increased unionization of railroad labor
 - d. the percent of rail costs that is fixed has declined because of declining railroad investment in tracks, terminals, and equipment
 - e. the percent of rail costs that is variable has increased because of increases in the real price of energy and declining energy efficiency of railroad locomotives
30. Given the railroad cost structure and keeping rail price and variable cost per ton constant, an increase in rail traffic will:
- a. reduce total revenue but increase profits
 - b. reduce profits and reduce average cost per ton
 - c. increase profits and increase average cost per ton
 - ☒ d. increase total revenue and increase profits
 - e. increase average cost per ton and increase total revenue
31. Michael Babcock conducted research on the determinants of shortline railroad profitability. Based on his research, which of the following is correct?
- a. gross miles of main-line track operated by the shortline is inversely related to shortline profitability
 - ☒ b. shortline ownership by a parent firm is directly related to shortline profitability
 - c. operating expense per mile is directly related to shortline railroad profitability
 - d. the number of carloads per mile of main-line track is inversely related to shortline profitability
 - e. the number of connections to other railroads is inversely related to shortline profitability

32. Which of the following regarding water carrier pricing is correct?
- ☒ a. water carrier use of differential pricing is limited by a high percentage of variable costs and intermodal competition from railroads and oil pipelines
 - b. barge water carriers use differential pricing extensively since they have a high percentage of fixed costs
 - c. the majority of barge water carrier prices are regulated by the Federal government
 - d. barge water carriers make substantial use of differential pricing since they transport a wide variety of commodities with different price elasticities of demand
 - e. barge water carriers use differential pricing extensively since they have substantial market power over price
33. Which of the following sets of characteristics of domestic water transportation is correct?
All three characteristics have to be correct.
- a. large carrying capacity, long transit times, high prices
 - b. good accessibility, handles low value products, good capability
 - ☒ c. handles mainly low value products, low prices, long transit times
 - d. small carrying capacity, low price, long transit times
 - e. regulated carriers dominate, poor accessibility, low prices
34. Which of the following concerning domestic water carrier cost structure and economies of scale is correct?
- a. water carrier terminal (port) costs are primarily fixed costs for the water carrier
 - b. water carriers have greater economies of scale than railroads partly because they have no factor indivisibilities and have a high percentage of variable costs
 - c. water carriers have a higher percentage of fixed costs than oil pipelines because water carriers have a more capital intensive technology than oil pipelines
 - ☒ d. water carriers have a high percentage of variable cost because they have no investment in the lock and dam system or terminals (ports)
 - e. water transport is characterized by factor indivisibilities
35. Which of the following regarding water carrier service characteristics is correct?
- a. water carrier safety performance is better than that of oil pipelines and railroads
 - b. water carrier capability is better than that of railroads
 - c. water carrier accessibility is better than that of oil pipelines
 - d. water carrier transit times are better (i.e., faster) than that of railroads
 - ☒ e. water carrier and oil pipeline transit times are about the same
36. Which of the following concerning oil pipeline prices and service is correct?
- ☒ a. unlike water transport, oil pipeline transport is not affected by weather
 - b. water carriers have a better safety record than oil pipelines
 - c. poor accessibility of oil pipelines has no effect on the cost of using oil pipeline service
 - d. oil pipeline average revenue per ton mile is more than water carrier average revenue per ton mile
 - e. oil pipelines have faster transit times than water carriers

37. Which of the following concerning oil pipeline cost structure is correct?
- a. oil pipelines have a high percentage of variable costs since they have no investment in ways
 - ☒ b. oil pipelines have a high percentage of fixed costs partly because they have no vehicle cost and have capital intensive production
 - c. oil pipelines cost structure resembles that of water carriers since both modes compete in the same markets
 - d. the largest short run variable cost of oil pipelines is labor
 - e. the most significant fixed cost of oil pipelines is interest expense since they have to finance their own pipelines and terminals
38. Which of the following observations concerning short and long run pipeline costs is correct?
- a. in the short run, all oil pipeline costs are variable costs
 - b. long run oil pipeline cost curves are U shaped due to the law of diminishing returns
 - c. in the short run, the major fixed input is energy and the major variable input is pipe diameter
 - ☒ d. long run oil pipeline cost curves are U shaped due to economies of scale
 - e. in the long run, all oil pipeline costs are fixed costs
39. Which of the following is the greatest constraint on the use of differential pricing by oil pipelines?
- a. a high percentage of variable costs
 - b. the desire of oil pipelines to use cost of service pricing
 - c. serve small areas
 - d. lack of market power over price
 - ☒ e. a limited number of commodities with similar price elasticities
40. In class we discussed the *Wall Street Journal* article titled, "Norfolk Southern is Showing Railroads Can Keep Rolling." Based on that discussion, which of the following is correct?
- a. President Trump infrastructure plan has aided railroads
 - b. According to the article for the first time since the early 2000s, trucking costs are rising slower than rail costs
 - ☒ c. According to the article, manufacturing firms are substituting rail for long haul trucking, sacrificing speed for cost
 - d. According to the article, transport capacity has gotten tighter and Norfolk Southern has little scope to raise prices
 - e. According to the article, motor carrier profits have been increasing