1. Which of the following nations became part of the WTO this month?
   a. Great Britain  
   b. Russia  
   c. the People’s Republic of China  
   d. the United States  
   e. Mexico

2. From an **efficiency** standpoint, which of the following is true?
   a. All firms should reduce pollution by 1,000 tons.
   b. All firms should reduce pollution by 50%. Firms S and U reduce by 2,250 tons. Firms T and V reduce by 1,750 tons.
   c. Firm S and V should do **all** the pollution reduction. Firms T and U should do none.
   d. Firm S should do all the pollution reduction. The other firms should continue to produce the same amount of pollution.
   e. Firm V should do all the pollution reduction. The other firms should continue to produce the same amount of pollution.

3. Assume that the government issues each firm, free of charge, tradable permits for 3,000 tons of pollution (for a market total of 12,000 tons). Assume the market for pollution permits stays competitive (i.e. Firms do not use them as means to keep other firms from producing). Also, no one other than the four firms buys or sells permits. Which firm is **most** likely to be a **net buyer** (i.e. buy more than it was issued) of permits?
   a. firm S  
   b. firm T  
   c. firm U  
   d. firm V  
   e. none of the firms are likely to be a net buyer of permits
4. Assume that the government issues each firm, free of charge, tradable permits for 3,000 tons of pollution (for a market total of 12,000 tons). Which firm is **most** likely to be a **net seller** (i.e. sell more than it was issued) of permits?
   a. firm S  
   b. firm T  
   c. firm U  
   d. firm V  
   e. none of the firms are likely to be a net buyer of permits

5. Assume that the government sells tradable permits, for a total of 12,000 tons of pollution, to the highest bidder. Which of the firms is **most** likely to **buy** the permits?
   a. firm S  
   b. firm T  
   c. firm U  
   d. firm V  
   e. all of the firms are likely to be a net buyers of permits

6. The government is considering two plans for tradable pollution permits. In one plan, the government will simply give each firm permits for 3,000 tons (for an industry total of 12,000 tons). In the other plan, the government will sell the permits to the highest bidder. Which of the following is true?
   a. The plan which sells the permits should always result in less pollution. 
   b. Both plans should result in about the same amount of pollution. 
   c. The plan which simply gives firms the permits should always result in less pollution.

7. In class, we mentioned some markets in which tradable pollution permits have been tried. Which of the following is one of those markets?
   a. gasoline production in Europe  
   b. gasoline production in the United States  
   c. paper production in Canada  
   d. cocoa production in (FRNC, i.e. rebel, controlled) Columbia  
   e. halibut fishing in Canada

8. Assume people make decisions at the margin. Thus, when a family is deciding to whether to purchase a third car they would compare: 
   a. the added costs of a third car with the added benefits of a third car. 
   b. the dollar cost of three cars with the potential dollar income generated by owning three cars. 
   c. the total costs of owning three cars with the total benefits of owning three cars. 
   d. the dollar costs of owning three cars with the psychic costs of owning three cars. 
   e. the internal benefits of owning three cars with the external costs of owning three cars.

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**Answer questions 9 - 10 (next page) based on the following information.** Dr. Docktor\(^1\) used to teach finance at TCU. She quit to start her own business. Last year her business had $190,000 in sales. Her business paid out $120,000 in costs (wages of her employees, rent, office materials, and taxes) that year.

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\(^1\) The names have been changed to protect the innocent. Any similarity to real individuals or individuals in fictional works is purely coincidence. The stunts in these questions are performed by professional stuntmen. Do not attempt this at home.
9. What was Dr. Docktor’s economic profit?
   a. some number less than $70,000 per month/year
   b. $70,000 per month/year
   c. some number greater than $70,000 per month/year
   d. More information, namely competitor’s sales and costs, is needed to answer this.

10. What is Dr. Docktor’s accounting profit?
    a. some number less than $70,000 per month/year
    b. $70,000 per month/year
    c. some number greater than $70,000 per month/year
    d. More information, namely competitor’s sales and costs, is needed to answer this.

11. Herr Hester is a German who owns an accounting firm. Each year, for the past 4 years, Herr Hester has earned what he would classify as zero economic profits. Which of the following is true?
    a. Herr Hester believes it has been more than worth it to be in business these last 4 years.
    b. Herr Hester believes it is just barely worth it to be in business these last 4 years.
    c. Herr Hester believes it has definitely not been worth it to be in business these last 4 years.
    d. More information is needed. What Herr Hester believes is subjective. He could feel that zero economic profit is definitely worthwhile or definitely not worthwhile depending on his tastes.

12. Consider two companies: a maid service run by Mr. Moore and a box manufacturing company run by Baron Bereznicki. Mr. Moore’s maid service currently uses a car, some cleaning equipment. It is based out of his home. Baron Bereznicki’s Box company is run out a small (12,000 ft²) factory. What is true of the short-run vs. the long-run, as defined in Microeconomics, for these two firms?
    a. The long-run is the same length of time for both firms.
    b. The long-run is a longer time period for Mr. Moore’s Maid Service.
    c. The long-run is a longer time period for Ms. Bereznicki’s Box Company.
    d. The long-run is a conceptual issue. Inter-firm comparisons cannot be made.

13. What is responsible for the shape of the cost curves in the short-run?
    a. GAAP: Generally Accepted Accounting Practices. Namely, the failure of accountants to include all costs when advising firms.
    b. GAAP: Generally Accepted Accounting Practices. Namely, decision making rules designed to help a firm maximize economic profits.
    c. In the short-run every firm is limited by market demand for the set of goods it currently produces.
    d. In the short-run, an individual competitive firm cannot satisfy all of market demand. It therefore faces a more restricted (firm specific) demand.
    e. In the short-run, every business has some factors (i.e. inputs) which it cannot change.

14. Which is the best example of a firm experiencing Diminishing Marginal Product of labor?
    a. A concrete company would like to expand its output. Demand, however, is limited. In order to sell more it has to the price it charges.
    b. A manufacturing company hires more labor but, because it has a limited number of machines, begins to run out of highly productive ways to use them.
    c. A construction company has hired all of the unemployed qualified personnel in an area. To expand output, it now has to hire workers from other firms by offering higher wages.
    d. A construction company has hired all of the highly qualified personnel in an area. It has to re-train its entry level (i.e. less qualified) employees to expand output.
    e. Both C & D are examples of diminishing marginal product of labor.
Answer #’s 15 – 24 based on the chart below. It is for a Swordfish fisher.

<table>
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<th>(q) Tons of Output</th>
<th>TFC</th>
<th>AFC</th>
<th>TVC</th>
<th>AVC</th>
<th>TC</th>
<th>ATC</th>
<th>MC</th>
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<td>$4,000</td>
<td>$667</td>
<td>$4,700</td>
<td>$783</td>
<td>$1,000</td>
</tr>
</tbody>
</table>

15. What is the **TFC** of the 4th unit (rounded to the nearest $)?
   a. $1,425
d. $500
e. none off the above

16. What is the **TVC** of the 4th unit (rounded to the nearest $)?
   a. $2,150
d. $700
e. none off the above

17. What is the **AVC** of the 2nd unit (rounded to the nearest $)?
   a. $900
d. $450
e. none of the above

18. What is the **AFC** of the 5th unit (rounded to the nearest $)?
   a. $3,000
d. $600
e. none of the above

19. What is the **ATC** of the 3rd unit (rounded to the nearest $)?
   a. $1,450
d. $550
e. none of the above

20. Over what range, if any, is Marginal Product of Labor (MPL) falling?
   a. q = 0 to 2 tons
d. q > 2 tons and up
e. none of the above

21. Over what range, if any, is Marginal Product of Labor (MPL) rising?
   a. q = 0 to 2 tons
d. q > 2 tons and up
e. none of the above
22. Assume the firm is a price taker and the market price is $555. How much Swordfish should this firm produce (in order to maximize profits or minimize losses)? (q* = 3 tons)
   a. q = 0 tons (shut-down)  b. q = 4 tons  c. q = 5 tons
   d. q = 6 tons or more  e. none of the above

23. Assume the firm is a price taker and the market price stays at $855. How much Swordfish should this firm produce (in order to maximize profits or minimize losses)?
   a. q = 0 tons (shut-down)  b. q = 4 tons  c. q = 5 tons
   d. q = 6 tons or more  e. none of the above

24. For which time period are these costs?
   a. the long run  b. the intermediate run (quasi-short run and quasi long run)
   c. the short run  d. more information is needed to answer this

Answer #s 25 – 28 based on the (partial) graph at below right. Yikes! It is only has points for Q = 200.

25. What is **AVC** when output = 200?
   a. $110  b. $ 85  c. $ 60  
   d. **AVC can be calculated given the data on the graph.**
      It is not, however, listed above (none of the above).
   e. more information is needed to answer this

26. What is **AFC** when output = 201?
   a. some number less than $ 25  b. $ 25  
   c. some number greater than $ 25  
   d. **AFC, when Q = 201, can be calculated given the data on the graph.**
      It is not, however, listed above (none of the above).
   e. more information is needed to answer this

27. What is **ATC** when output = 201?
   a. some number less than $ 60  b. $ 60  
   c. some number greater than $ 60  
   d. **ATC, when Q = 201, can be calculated given the data on the graph.**
      It is not, however, listed above (none of the above).
   e. more information is needed to answer this

28. What is **AVC** when output = 201? **C is the correct answer. However, there was a typo on the other version of the exam. All students received credit for this question.**
   a. a bit lower than AVC when Q = 200  b. the same value of AVC as when Q = 200  
   c. a bit higher AVC than AVC when Q = 200  
   d. **AVC, when Q = 201, can be calculated given the data on the graph.**
      It is not, however, listed above (none of the above).
   e. more information is needed to answer this
29. Which curve is **MC**?
   a. Curve X
   b. Curve Y
   c. Curve Z
   d. MC cannot be any of the 3 curves.
   e. More data is needed to answer this.

30. Which curve is **ATC**?
   a. Curve X
   b. Curve Y
   c. Curve Z
   d. ATC cannot be any of the 3 curves.

31. Which curve is **AFC**?
   a. Curve X
   b. Curve Y
   c. Curve Z
   d. AFC cannot be any of the 3 curves.
   e. More data is needed to answer this.

32. Over what range, if any, is the firm experiencing diminishing marginal returns?
   a. Q = 0 to 350
   b. Q = 0 to 100
   c. Q = 350 +
   d. Q = 100 +
   e. the firm is experiencing diminishing returns over the entire range (Q = 0 +)

33. Frau Farhat owns a firm. She states; “I have many, many, competitors selling a similar product. If I raise my prices, say 10%, I will lose most of my customers. I will only retain about 45% of my present customers?” What type of industry is Frau Farhat in?
   a. Monopolistic Competition
   b. Monopoly
   c. Oligopoly
   d. Perfect competition
   e. none of the above (Key: She has some control over price. It’s not perfect comp.)

34. In the 1500’s the Dutch government granted the Dutch East India Company an exclusive license to market tea in the Netherlands? What do economists call this exclusive license?
   a. seniorage
   b. a barrier to entry
   c. an entry facilitator
   d. product differentiation
   e. “going Dutch”

35. There are 5 airlines which fly passengers from Seattle to San Francisco. The competition between these five airlines on this route has been very cutthroat. Each aggressively attempts to under price the other and none are making large profits. Which best characterizes the market for passenger air service from Seattle to San Francisco?
   a. Monopolistic Competition
   b. Monopoly
   c. Oligopoly
   d. Perfect competition
   e. none of the above
36. Senior Searcy owns a business in a perfectly competitive industry in Latin America. Currently, he is selling 2,000 units a month for $8 each. Assume he ups production a bit, say to 2,100 units. What will the marginal revenue of unit 2,100 be? (Key: A perfectly competitive firm is a, by definition, a price taker. It can sell any and all it wants at the market price. MR = Price.)

a. some amount less than $8  
b. $8  
c. some amount more than $8  
d. More information is needed to answer this.

37. Senioritta Simon owns a business in a perfectly competitive industry in Latin America. Which of the following curves is the demand curve her business faces?

Turn this over. There are three more questions on the next page.
38. Assume the firm depicted is perfectly competitive. **The price of the product is $55?** How much should it produce if it wants to maximize profits?
   a. about 855 (± 20)  
   b. about 680 (± 20)  
   c. about 470 (± 20)  
   d. about 255 (± 20)  
   e. None of the above is correct.  
   **(P = MR = $55. MR = MC when Q ≅ 585.)**

39. Assume the firm depicted is perfectly competitive. **The price of the product is $50?** How much should it produce if it wants to maximize profits?
   a. about 760 (± 20)  
   b. about 550 (± 20)  
   c. about 470 (± 20)  
   d. about 290 (± 20)  
   e. None of the above is correct.

40. Assume the firm depicted is perfectly competitive. **The price of the product is $45?** How much should it produce if it wants to maximize profits?
   a. about 840 (± 20)  
   b. about 660 (± 20)  
   c. about 470 (± 20)  
   d. about 330 (± 20)  
   e. None of the above is correct.  
   **(P = MR = $45. MR = MC when Q ≅ 510.)**