1.

a. Meadville's MRTS is:

MRTS = (dL/dQ)/(dK/dQ)

MRTS = (.5L-.5K1.5)/(L.51.5K.5) = **K/3L**

b. Meadville's Production Expansion Path is:

MRTS = (wL/wK)

K/3L = 16/3 = **K = 16L**

c. Meadville's Total Cost as a function of output is:

TC =

2.

The production expansion path will be located along the x axis because when you find the PE path you find the MRTS, and from that you can find the expansion path by setting the MRTS equal to WL/WK . When WL is 20 and WK is 30 the production expansion path lays directly on the X axis of the graph.

3.

In the graph described above Labor and Capital are **perfect substitutes**. The production expansion path is located along the x axis so this told me that they were perfect substitutes. The firm will use either all labor or all capital.

4. The marginal rate of technical substitution is:

MRTSLK = - ΔK / ΔL

MRTS = -2

5.

In the graph the function exhibits increasing returns to scale. As the quantity increases the profit increases more than the quantity.

7.

From question 6 Tom and Ray's production function is min{1/3M, L}. Their production expansion path has the equation of M=3L because it will take 3 units of L to equal 1 unit of M.

9.

A firm that experiences economies of scale has a downward sloping average coat curve because as the quantity supplied increases the cost to produce the output will decrease.

11.

When the price is $100 and the firm is maximizing profit the quantity will be 100. The firm will then make $10,000 in revenue as price \* quantity equals revenue.

13.

If the price is $70 and they produce 100 units of output they will make no economic profit and the market will be at equilibrium.

14.

B. When the total product of the firm is maximized the labor will be 100. At this point the marginal product of labor is at a minimum.

15.

A. The long run equilibrium price in the industry is the minimum Average Cost. The minimum average cost is 24, which is also equal to the price.

So

minAC = P = 24

16.

Transaction costs are the costs that a firm has to pay when making an exchange of the goods it produces. The three main components of transaction costs are:

1. Search: Costs that occur when the firm researches products. An example would be to see if there is already a good on the market that is similar to the one they are trying to sell.
2. Bargaining: These are the costs that are needed to come to an agreement with the other party in the sale. These can include items such as contracts.
3. Enforcement: This is the cost put on the firm where the firm needs to make sure that the other party in the contract, the consumer, or the receiving end of the transaction sticks to their word. For example the record industry has enforcement costs relating to the prevention of piracy.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 17. | # of buyers and sellers | Barriers to Entry | Price Strategy | Promotion Strategy | Profits |
| Monopolistic Competition | Many | Low | Maker | Yes | No |
| Monopoly | One | High | Maker | Yes | Yes |

Professor Nonnenmacher,

I apologize for not bringing this up sooner, but I didn't realize until I was working on my test corrections that the three multiple choice questions on the second page of the exam are only 3 points apiece. The total points available on the second page are 14 points but I missed 16 points. I believe that the multiple choice questions were counted as 4 points apiece as I really only got one point on the page for partial credit with number 2.