Answer Key
Winter 1999 - Midterm 2, Version A

Multiple Choice:

1) b	2) a
3) c	4) c
5) b	6) a
7) c	8) b
9) c	10) b
11) a	12) d
13) c	14) a
15) c	16) c
17) b	18) c
19) c	20) b
21) d	22) c
23) c	24) c
25) a	26) b
27) b	28) b
29) b	30) a

Short Answer:

1)

Quantity	Marginal Revenue
1	**20**
2	**20**
3	**20**
4	**20**
5	**20**
6	**20**
7	**20**

TOTAL FIXED COST: **$20. To see this note that at Q=1, MC=TVC=$10, and ATC=TC=$30. TFC = TC - TVC and is the same for any level of output. So, here TFC=30-10 = $20.**

2) Produce until MR=MC, which occurs at Q=5. Then, profits are

$$(P\text{-}ATC)Q = (20 - 15.20)5 = \$24.00$$

3) Economic profits will eventually be zero in the long-run as firms enter the market in response to positive economic profits.

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4)

Quantity	Marginal Revenue
1	**36**
2	**28**
3	**20**
4	**12**
5	**4**
6	**-4**
7	**-12**

TVC at Q=6: **$86 (sum of the MC up through Q=6)**

AVC at Q=6: **=TVC/Q = 86/6 = $14.33**

5) Produce until MR=MC, which occurs at Q=4. Then, profits are

(P-ATC)Q = (24 - 14.00)4 = $40.00

6) Produce until MR=MC, which again occurs at Q=4. However, profits are now different because the ATC curve is different. ATC at Q=4 is AVC (=12) + AFC (=20/4) = $17. Therefore, profits are

(P-ATC)Q = (24 - 17.00)4 = $28.00

Therefore, profits are less with Frog's new technology and you would not adopt it.

7) Since marginal revenue ($20) would be above marginal cost ($12) for every unit you sold, you would theoretically want to produce an infinite amount. (Of course, if you started to produce extremely large amounts of goods, you would eventually have an impact on market prices and this would no longer be perfect competition.)