Suppose a competitive firm's cost information is as shown in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Output | Marginal Cost | Average Variable Cost | Average Total Cost |
| 0 |  |   |   |
| 1 | $ 8.00 | $ 8.00 | $ 17.00 |
| 2 | 7.00 | 7.50 | 12.00 |
| 3 | 6.00 | 7.00 | 10.00 |
| 4 | 5.00 | 6.50 | 8.75 |
| 5 | 6.00 | 6.40 | 8.20 |
| 6 | 7.00 | 6.50 | 8.00 |
| 7 | 8.00 | 6.71 | 8.00 |
| 8 | 9.00 | 7.00 | 8.13 |
| 9 | 10.00 | 7.33 | 8.33 |
| 10 | 11.00 | 7.70 | 8.60 |

1. Suppose the firm sells its output for $9.10. What is the firm's marginal revenue (MR)? Explain.
2. Compare MR to marginal cost (MC) to determine the firm's profit maximizing (loss-minimizing) output level. Be sure to check whether or not the firm should shut down. Show all work & explain your answers well.
3. What is the firm's per-unit profit (loss) and total profit (loss) at this output level? Show all your work.
4. Repeat parts a. through c. assuming the price has fallen to $7.10.
5. Repeat again assuming the price has fallen to $6.10.
6. At what price does the firm earn a normal profit? Explain.
7. At what price must this firm shut down? Explain.