|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **TC** | **TVC** | **TFC** | **ATC** | **AVC** | **AFC** | **MC** |
| 0 | 10 | 0 | 10 | - | - | - | - |
| 1 | 30 | 20 | 10 | 30 | 20 | 10 | 20 |
| 2 | 40 | 30 | 10 | 20 | 15 | 5 | 10 |
| 3 | 60 | 50 | 10 | 20 | 16.6 | 3.3 | 20 |
| 4 | 90 | 80 | 10 | 22.5 | 20 | 2.5 | 30 |
| 5 | 130 | 120 | 10 | 26 | 24 | 2 | 40 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **TC** | **TVC** | **ATC** | **AVC** | **AFC** | **MC** |
| 0 | 10 | 0 | - |  | - | - |
| 1 | 40 | 30 | 40 |  | 10 | 30 |
| 2 | 60 | 50 | 30 |  | 5 | 20 |
| 3 | 70 | 60 | 23 |  | 3.3 | 10 |
| 4 | 90 | 80 | 22.5 |  | 2.5 | 20 |
| 5 | 120 | 110 | 24 |  | 2 | 30 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **TC** | **TVC** | **ATC** | **AVC** | **AFC** | **MC** |
| 0 | 20 | 0 | - | - | - | - |
| 1 | 40 | 20 | 40 | 20 | 20 | 20 |
| 2 | 50 | 30 | 25 | 15 | 10 | 10 |
| 3 | 70 | 50 | 23 | 16.6 | 6.6 | 20 |
| 4 | 100 | 80 | 25 | 20 | 5 | 30 |
| 5 | 140 | 120 | 28 | 24 | 4 | 40 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **TC** | **TVC** | **ATC** | **AVC** | **AFC** | **MC** |
| 0 | 20 | 0 | - |  | - | - |
| 1 | 50 | 30 | 50 |  | 20 | 30 |
| 2 | 70 | 50 | 35 |  | 10 | 20 |
| 3 | 80 | 60 | 26 |  | 6.6 | 10 |
| 4 | 100 | 80 | 25 |  | 5 | 20 |
| 5 | 130 | 110 | 26 |  | 4 | 30 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **TC** | **TVC** | **TFC** | **ATC** | **AVC** | **AFC** | **MC** |
| 0 | 20 | 0 | 20 | - | - | - | - |
| 1 | 40 | 20 | 20 | 40 | 20 | 20 | 20 |
| 2 | 50 | 30 | 20 | 25 | 15 | 10 | 10 |
| 3 | 70 | 50 | 20 | 23 | 16.6 | 6.6 | 20 |
| 4 | 100 | 80 | 20 | 25 | 20 | 5 | 30 |
| 5 | 140 | 120 | 20 | 28 | 24 | 4 | 40 |

 **Total Fixed Costs = $ 20 Total Fixed Costs = $ 30**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **TC** | **TVC** | **MC** | **TC** | **TVC** | **MC** |
| 0 | 20 | 0 | - | 30 | 0 | - |
| 1 | 40 | 20 | 20 | 50 | 20 | 20 |
| 2 | 50 | 30 | 10 | 60 | 30 | 10 |
| 3 | 70 | 50 | 20 | 80 | 50 | 20 |
| 4 | 100 | 80 | 30 | 110 | 80 | 30 |
| 5 | 140 | 120 | 40 | 150 | 120 | 40 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Quantity** |  **LRATC-A** | **LRATC-B**  | **LRATC-C** |
| 1  |  10 | 7 |  12 |
| 2 | 8 | 6 | 9 |
| 3 | 7 | 5 | 7 |
| 4 | 6 | 6 | 6 |
| 5 | 6 | 7 | 5 |
| 6 | 6 | 9 | 4 |
| 7 | 7 | 13 | 3 |
| 8 | 8 | 17 | 5 |

**(a) Which firm faces the lowest minimum ATC?**

**(b) Which firm has the greatest minimum efficient scale?**

**(c) Which firm has the smallest economies of scale?**

**What is the LR aTC at a q of ??**

