Estimating Water Consumption in Camp Settlings

You visit a camp with 3300 residents and 4 wells which are equipped with handpumps. They claim that there is not enough water and there is a queue at the wells for 13 hours per day. You visit each well and monitor the production at each by timing the filling of a few containers typically over a 15 minute period. The data are presented below:

What is the water consumption (collection rate) in this camp? Assume all of the water collectors are from the camp population.

|  |  |  |  |
| --- | --- | --- | --- |
| **Well 1**  **Time L. removed** | **Well 2**  **Time L. removed** | **Well 3**  **Time L. removed** | **Well 4**  **Time L. removed** |
| **10:07 20** | 10:58 10 | 12:42 20 | **1:22 20** |
| **10:09 20** | 11:01 20 | 12:44 20 | **1:29 20** |
| **10:10 10** | 11:05 20 | 12:46 20 | **1:35 20** |
| **10:14 20** | 11:10 20 | 12:49 20 | **1:42 20** |
| **10:17 20** | 11:13 20 | 12:51 20 |  |
| **10:19 20** |  | 12:54 20 |  |
| **10:24 20 (fight)** |  |  |  |