Worksheet: Add & Subtract with Hudson River Shipping

On October 6, 2004, students recorded information about vessels they saw on the river. Use this table of their observations to answer the questions below.

<table>
<thead>
<tr>
<th>Hudson River Mile town or city</th>
<th>HRM 124 Stuyvesant</th>
<th>HRM 115 Athens</th>
<th>HRM 97 Ulster</th>
<th>HRM 87 Esopus</th>
<th>HRM 61 Beacon</th>
<th>HRM 18 Yonkers</th>
<th>HRM 7 Manhattan</th>
</tr>
</thead>
<tbody>
<tr>
<td>ship Gypsum Baron</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9:45 AM south</td>
<td>10:45 AM anchored</td>
</tr>
<tr>
<td>ship Alice Oldendorff</td>
<td>1:02 PM south</td>
<td>1:35 PM south</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>barge Bouchard B#35</td>
<td>11:30 AM south</td>
<td></td>
<td></td>
<td></td>
<td>4:45 PM south</td>
<td></td>
<td></td>
</tr>
<tr>
<td>barge RTC 120</td>
<td>9:00 AM south</td>
<td>10:30 AM south</td>
<td>11:17 AM south</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Alice Oldendorff passes Stuyvesant (photo by Doug Reed)

1. The Alice Oldendorff, 633 feet long, carries road salt and gypsum.
   (a) How long did the Alice Oldendorff take to go from Stuyvesant to Athens?
   
   (b) How many miles did the Alice Oldendorff travel between those two points?
   
   (c) Continuing in the same direction, would it reach Manhattan or Albany (at HRM 145)?
2. The *Gypsum Baron*, 495 feet long, carries gypsum to wallboard factories on the Hudson at Haverstraw, Buchanan, and Rensselaer.  
(a) How many miles did *Gypsum Baron* travel from Yonkers to Manhattan?  
(b) How long did it take *Gypsum Baron* to make the trip?  
(c) How fast was the *Gypsum Baron* going (in miles per hour)?

3. The barge *RTC 120*, 405 feet long, carries oil. Tugboats push or pull the barge through the water.  
(a) How long (in hours and minutes) did it take *RTC 120* to go from Athens to Ulster?  
(b) How long did it take *RTC 120* to go from Ulster to Esopus?  
(c) How many miles did *RTC 120* travel between Athens and Esopus?

Tugboats move barges from place to place along the Hudson River.

3. The barge *Bouchard B#35*, 338 feet long, also carries oil.  
(a) A football field is 300 feet long from one goal line to the other. Is the *Bouchard B#35* longer than a football field? How much longer?  
(b) How long did it take *Bouchard B#35* to go from Stuyvesant to Beacon?  
(c) How many miles did *Bouchard B#35* travel between the two places?