Battle of the Atlantic Document Packet: Figure One

Directions: Answer each of the questions below using the information provided. Reference the Vocabulary Sheet as needed.

<table>
<thead>
<tr>
<th>Year</th>
<th>German Submarines Sunk</th>
<th>Allied Shipping Sunk</th>
<th>New Construction</th>
<th>Net Gains or Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Number)</td>
<td>(In thousands of tons)</td>
<td>U.S.</td>
<td>British</td>
</tr>
<tr>
<td>1939 (4 months)</td>
<td>9</td>
<td>810</td>
<td>101</td>
<td>231</td>
</tr>
<tr>
<td>1940</td>
<td>22</td>
<td>4,407</td>
<td>439</td>
<td>780</td>
</tr>
<tr>
<td>1941</td>
<td>55</td>
<td>4,398</td>
<td>1,169</td>
<td>815</td>
</tr>
<tr>
<td>1942</td>
<td>185</td>
<td>8,245</td>
<td>5,339</td>
<td>1,843</td>
</tr>
<tr>
<td>1943</td>
<td>237</td>
<td>3,611</td>
<td>12,384</td>
<td>2,201</td>
</tr>
<tr>
<td>1944</td>
<td>241</td>
<td>1,422</td>
<td>11,639</td>
<td>1,710</td>
</tr>
<tr>
<td>1945 (4 months)</td>
<td>153</td>
<td>458</td>
<td>3,551</td>
<td>283</td>
</tr>
<tr>
<td>Totals</td>
<td>782</td>
<td>23,351</td>
<td>34,622</td>
<td>7,863</td>
</tr>
</tbody>
</table>

Source: King, Third Report to the Secretary of the Navy, page 206

During which year(s) were more Allied ships sunk than were built?

How many total German U-boats were sunk during that same period?

Based on your answer to the first question, what does that answer imply about the relative success of Allied forces in stopping German U-boat attacks on convoys in the Battle of the Atlantic during that period?

During which year(s) were more Allied ships built than were sunk?

How many total German U-boats were sunk during that same period?

What does your answer imply about the relative success of Allied forces in stopping German U-boat attacks on convoys in the Battle of the Atlantic during that period?

Which year appears to mark an important shift for Allied success?

Make three predictions about how the Allies created this reversal.
### Battle of the Atlantic Document Packet: Figure Two

<table>
<thead>
<tr>
<th>Statement</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>“By the time the convoy was attacked, it was too late to do anything except fight. Any [change of course] to avoid an attack would have had to come sufficiently early so that the U-boats could not catch the convoy and get into attack position…”</td>
<td>Russell, <em>Ultra and the Campaign Against the U-boats in World War II</em>, 1980, page 11</td>
</tr>
<tr>
<td>“The U-boat war has been a war of wits...There is a constant interplay of new devices and new tactics on the part of forces working against the submarines…”</td>
<td>King, <em>First Report to the Secretary of the Navy</em>, 1946, page 82</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does Russell suggest the Allies could have protected their convoys?</td>
<td>How does Admiral King describe the battle against German U-boats? What does he mean by this?</td>
</tr>
<tr>
<td>What did the Allies need to be able to do to accomplish this?</td>
<td>What does Admiral King suggest is the key to defeating the U-boats?</td>
</tr>
</tbody>
</table>
Direction: Using the information provided, determine how each of the items below helped Allied forces prevent U-boat attacks on their convoys.

**High Frequency Direction Finder (aka HF/DF or “Huff Duff”)**

What information can be determined using “Huff Duff”?

How would this tool help prevent U-boat attacks on Allied convoys?

Rate this tool on the scale below.

1 | 2 | 3 | 4 | 5
---|---|---|---|---
Least Helpful | | | | Most Helpful

Explanation: 

How can the information about HF/DF help us understand how the Allies won the Battle of the Atlantic?
Battle of the Atlantic Document Packet: Figure Four

Directions: Using the information provided, determine how each of the items below helped Allied forces prevent U-boat attacks on their convoys.

Sound Navigation Ranging (aka SONAR)

What information can be determined using SONAR?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

How would this tool help prevent U-boat attacks on Allied convoys?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Rate this tool on the scale below.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least Helpful</td>
<td></td>
<td></td>
<td></td>
<td>Most Helpful</td>
</tr>
</tbody>
</table>

Explanation: ____________________________________________________________

________________________________________________________________________

________________________________________________________________________

How can the information about SONAR help us understand how the Allies won the Battle of the Atlantic?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Source: Naval History and Heritage Command (L55-03.07.02), National Oceanic and Atmospheric Administration
Battle of the Atlantic Document Packet: Figure Five

Directions: Using the information provided, determine how each of the items below helped Allied forces prevent U-boat attacks on their convoys.

Radio Detection and Ranging (aka RADAR)

What information can be determined using RADAR?

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________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

How would this tool help prevent U-boat attacks on Allied convoys?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Rate this tool on the scale below.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Least Helpful</td>
<td></td>
<td></td>
<td></td>
<td>Most Helpful</td>
<td></td>
</tr>
</tbody>
</table>

Explanation: ______________________________________________________________

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________________________________________________________________________
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________________________________________________________________________

How can the information about RADAR help us understand how the Allies won the Battle of the Atlantic?

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________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
**Battle of the Atlantic Document Packet: Figure Six**

**Directions:** Using the information provided, determine how each of the items below helped Allied forces prevent U-boat attacks on their convoys.

**Ultra Intelligence**

1941-1942: “The Germans used a cipher machine called Enigma to put messages into secret form, and the British first broke the code...[and] were able to read German naval traffic (code-named ‘Hydra’)...But the Germans changed the Hydra code in February of 1942 to the more complex Triton code. This act ‘blinded’ both British and American code breakers for most of the remainder of 1942...By the end of 1942, Allied code breakers had broken the Triton code, and the Ultra blackout ended,”

Puleo, *Due to Enemy Action*, page 28

1943-1945: “By the summer of 1943, the most significant U-boat tracking work was performed in the security of the Secret Room, whose staff maintained three wall charts - one depicting the North Atlantic, one the South Atlantic, and a third, the Indian Ocean. They recorded individual U-boat positions with color-coded pins on the wall charts, and labeled the pins with the type and tonnage of the U-boat...”

Puleo, *Due to Enemy Action*, page 31

“[High ranking naval intelligence officers] either drafted or approved the daily U-boat situation estimate, with its forecast of where submarines were going, and then transmitted it to task forces at sea...”

**What information could be determined using Ultra Intelligence?**

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**How would this tool help prevent U-boat attacks on Allied convoys?**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________

**Rate this tool on the scale below.**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least Helpful</td>
<td></td>
<td></td>
<td></td>
<td>Most Helpful</td>
</tr>
</tbody>
</table>

**Explanation:** ________________________________________________

________________________________________________________________________

________________________________________________________________________

**How can the information about Ultra Intelligence help us understand how the Allies won the Battle of the Atlantic?**

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________________________________________________________________________
**Battle of the Atlantic Document Packet: Figure Seven**

**Directions:** Using the information provided, determine how each of the items below helped Allied forces prevent U-boat attacks on their convoys.

**Ships and Aircraft**

Describe how the U.S. Navy protected convoys at sea.

Rate this tool on the scale below.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least Helpful</td>
<td></td>
<td></td>
<td></td>
<td>Most Helpful</td>
</tr>
</tbody>
</table>

Explanation: 

How would these ships and aircraft help prevent U-boat attacks on Allied convoys?

For our four-engine, land-based search plane, we have...a plane with a range of well over 3000 miles, heavy armament and a wealth of new navigational, radio and radar equipment, enabling it to fly long hours of reconnaissance over trackless oceans. These planes, which carry bombs and depth charges, have made impressive records against...[enemy] submarines…"

King, *First Report to the Secretary of the Navy*, page 216

How can the information about ships and aircraft help us understand how the Allies won the Battle of the Atlantic?