Maggie Roswell is a fixed income portfolio manager, she makes the following statements.

Statement #1: If the volatility of interest rates increases, the value of the callable bond will increase.  
Statement #2: A non-callable bond will not be affected by a change in the volatility or level of interest rates.  
Statement #3: When interest-rates decreases, the value of the non-callable bond increases by more than the callable bond.  
Statement #4: If the volatility of interest rates increases, the value of the putable bond will also increase.  
Statement #5: A dual currency bond with coupon payments in the domestic currency and principle repayment in the foreign currency does not have any exposure to the foreign currency until it is matured and the principle is repaid.  
Statement #6: The pure expectation theory and the preferred habitat theory both assume that the forward rates in the current long-term bonds are closely related to the market’s expectations about future short-term rates.

Question

1. Regarding Statement 1, Roswell is most likely
   A. Correct, call value increases with increase in interest rate volatility.
   B. Incorrect, call value decreases with increase in interest rate volatility.
   C. Incorrect, as even though call value increases, value of bond decreases.

2. Regarding Statement 2, Roswell is most likely correct
<table>
<thead>
<tr>
<th>Volatility</th>
<th>Level of Interest Rates</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>No</td>
</tr>
<tr>
<td>B</td>
<td>Yes</td>
</tr>
<tr>
<td>C</td>
<td>No</td>
</tr>
</tbody>
</table>

3. Regarding Statement 3, Roswell is most likely
   A. Correct, since the value of the call reduces the price of a callable bond
   B. Incorrect, since a non-callable bond will always be priced below a callable bond
   C. Incorrect, since a non-callable bond will have a higher volatility

4. Regarding Statement 4, Roswell is most likely
   A. Incorrect, value of a putable bond will decrease.
   B. Correct, because higher interest rate volatility will increase the value of the embedded put option and increase the value of the putable bond.
   C. Incorrect, value of the put will increase but the value of the putable bond will decrease.

5. Regarding Statement 5, Roswell is most likely
   A. Incorrect, since the bond will only have foreign currency exposure at coupon payment dates.
   B. Correct, since the bond will only have a foreign currency exposure at maturity.
   C. Incorrect, since the bond will have a foreign currency exposure till maturity.
6. Regarding Statement 6, Roswell is most likely Pure Expectation Theory or Preferred Habitat Theory. The table below shows the correctness of each theory for options A, B, and C:

<table>
<thead>
<tr>
<th></th>
<th>Pure Expectation Theory</th>
<th>Preferred Habitat Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>B</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>C</td>
<td>No</td>
<td>Yes</td>
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</tbody>
</table>