1. **Which are the top three variables in your model which contribute most towards the probability of a lead getting converted?**

The top three variables contributing most to the probability of lead conversion, as identified through Recursive Feature Elimination (RFE) and the logistic regression model, are:

1. **Total Time Spent on Website**: This feature has the most significant impact on lead conversion. A longer time spent on the website indicates higher interest and engagement, increasing the likelihood of conversion.

2. **Lead Origin_Lead Add Form**: Leads generated through this origin have a much higher conversion rate, reflecting a clear intent to enroll or inquire further.

3. **Total Visits**: While not as significant as the first two, this feature still plays an important role, as more visits generally correlate with higher engagement and a greater chance of conversion.

2. **What are the top 3 categorical/dummy variables in the model which should be focused the most on in order to increase the probability of lead conversion?**

The top three categorical/dummy variables to focus on for improving lead conversion are:

1. **Lead Origin_Lead Add Form**: This variable has a significant impact on conversion, as indicated by both the RFE and logistic regression results. Focusing on leads generated through this form is likely to yield better results.

2. **Last Activity_SMS Sent**: The model suggests that leads who receive an SMS are more likely to convert, highlighting SMS outreach as a powerful tool for engagement.

3. **Lead Source_Olark Chat**: This source is associated with higher conversion rates, indicating that interactions through live chat positively contribute to conversions.

Additionally, the variable **Last Notable Activity_Unreachable** should be deprioritized, as it does not add value and may introduce noise or flaws into the model.

3. **X Education has a period of 2 months every year during which they hire some interns. The sales team, in particular, has around 10 interns allotted to them. So during this phase, they wish to make the lead conversion more aggressive. So they want almost all of the potential leads (i.e. the customers who have been predicted as 1 by the model) to be converted and hence, want to make phone calls to as much of such people as possible. Suggest a good strategy they should employ at this stage.**

During the intern hiring period, where X Education aims to aggressively convert leads, the following strategy should be implemented:

1. **Focus on High-Conversion Channels**: Prioritize outreach to leads from high-converting sources such as Lead Origin_Lead Add Form and Lead Source_Olark Chat.

2. **Utilize the SMS Channel**: Since Last Activity_SMS Sent is a strong predictor of conversion, sending personalized SMS messages before following up with a phone call can enhance engagement.

3. **Segment Leads Based on Engagement**: Prioritize leads with higher engagement metrics, like Total Time Spent on Website and TotalVisits. These leads should be at the top of the call list, as they are more likely to convert with a direct phone call.

This approach ensures that interns focus on leads with the highest likelihood of conversion, maximizing the effectiveness of available resources.

4. **Similarly, at times, the company reaches its target for a quarter before the deadline. During this time, the company wants the sales team to focus on some new work as well. So during this time, the company's aim is to not make phone calls unless it's extremely necessary, i.e. they want to minimize the rate of useless phone calls. Suggest a strategy they should employ at this stage.**

When X Education reaches its quarterly target and aims to minimize unnecessary phone calls, the strategy should include:

1. **Limit Calls to High-Priority Leads**: Focus exclusively on leads that have demonstrated significant engagement. Use thresholds based on Total Time Spent on Website and TotalVisits to identify those most likely to convert.

2. **Rely on Digital Channels**: Utilize non-intrusive methods such as SMS and email follow-ups, particularly for leads associated with activities like Last Activity_SMS Sent or Last Activity_Email Opened, which show higher probabilities of conversion.

3. **Reduce Outreach to Low-Converting Activities**: Avoid contacting leads whose last activities include interactions such as Last Notable Activity_Unreachable, as these are less likely to convert according to the model's outputs.

By concentrating on these high-probability leads and minimizing unnecessary outreach, the sales team can optimize their resources while maintaining effective lead engagement.