Assume the corporate tax rate is 30%, the individual tax rate on equity income is 5%, and the individual tax rate on interest income is 20%. Assume also that there is a 10% chance that Wind Inc. will realize Earnings Before Interest and Taxes (EBIT) of $2 million, a 30% chance that Wind will realize an EBIT of $8 million, a 35% chance that Wind will realize an EBIT of $14 million, and a 25% chance that Wind will realize an EBIT of $20 million.

a. What is the optimal level of interest for Wind? Note: Calculations required. Show your work if you want to receive any partial credit.

b. Which of the issues we discussed in chapter 16 might cause Wind to optimally have more debt that you answered in part a? Note: a list of the issues without any discussion is fine.

\[
\begin{align*}
\text{EBIT} & = 1 - \frac{1 - (1 - 0.6)(3)(1 - 0.05)}{1 - 0.2} = 0.2625 \\
\text{EBIT} & = 1 - \frac{1 - (1 - 0.25)(3)(1 - 0.05)}{1 - 0.2} = -0.09844 \\
\Rightarrow \text{Optimal} & = 14 + 11
\end{align*}
\]

b. Stockholder-manager conflict +5
As a signal of management's confidence, +5