Assume there is a 35% chance that Falling Apple’s EBIT will equal $45 million per year, a 45% chance that Falling Apple’s EBIT will equal $75 million per year, and a 20% chance that Falling Apple’s EBIT will equal $120 million per year.

a. What is Falling Apple’s optimal level of interest payments if capital markets are perfect? Note: No need to justify your answer.
b. How will Falling Apple’s optimal level of interest payments change (compared to a) if the corporate tax rate equals 25%?
c. How will Falling Apple’s optimal level of interest payments change (compared to b) if the corporate tax rate equals 25%, the personal tax rate on equity income is 15%, and the personal tax rate on ordinary income is 20%? Justify your answer.
d. How will Falling Apple’s optimal level of interest payments change (compared to c) if management has superior information about the firm? Note: No need to justify your answer.