Use the entropy graphs on page 2 to determine the best splits for building an ID tree for each of the following data sets, and draw the trees.

Recall that the best split for a set of data minimizes the average disorder:

$$\text{Average disorder} = \sum_{b} \left( \frac{n_b}{n_t} \right) \times \left( \sum_{c} \frac{n_{bc}}{n_b} \log_2 \left( \frac{n_{bc}}{n_b} \right) \right)$$

- $n_b$ is the total number of samples in a region $b$
- $n_t$ is the total number of samples in all regions
- $n_{bc}$ is the total of samples in region $b$ of class $c$
Entropy: \[ E = -a \log_2 a - b \log_2 b - c \log_2 c \ldots \]