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① $S = \{GGG, GBB, GBG, GGB, BBG, BGB, BGG, BBB\}$

$$X = \{GGG, GGB\}$$

$$Y = \{GBB, BBG, BGB, BBB\}$$

$$Z = \{BBG, BBB\}$$

② everything in X and Z and not Y
 $= \{GGG, GGB, BBG, BBB\}$

③ $Y \cup Z = \{GBB, BBG, BGB, BBB, BBG, BBB\}$

④ it's an empty set because they have nothing in common.

⑤ X and Y are said to be disjoint events

Q2

(a) Ans: Random because whenever you flip the coin, the probability is 50/50 no matter how many times you flip it we are going to get different outcomes.

(b) Ans: Random because same as the answer of Question A. the probability is 70/30 and no matter how many times we flip it, we are going to get different outcomes.

(c) Ans: Deterministic because the outcome is easily predicted and no matter how many times we flip, it's going to be tail.

Q3

$$65 + 40 - 25 = 80$$