

Review chapter 6

#1

mode 6
median 7
mean 8

6, 6, ⁷8, 12

#2

$$P(B|A) = \frac{1}{3} = \frac{P(B \cap A)}{P(A)}$$

$$\frac{11}{12} = P(A \cup B) = P(A) + \frac{1}{3} - \frac{P(A \cap B)}{P(A) \cdot \frac{1}{3}}$$

$$P(B|A) = P(B) = \frac{1}{3}$$

$$\frac{11}{12} = P(A) + \frac{1}{3} - \frac{1}{3} \cdot P(A)$$

$$\frac{7}{12} = \frac{2}{3} P(A)$$

$$\frac{3}{2} \cdot \frac{7}{12} = P(A)$$

$$\frac{7}{8} = P(A)$$

$$P(A|B) = \frac{P(A) \cdot P(B)}{P(A \cap B)}$$

If A and B are independent:

$$P(A \cap B) = P(A) \cdot P(B)$$

$$P(A|B) = P(A)$$

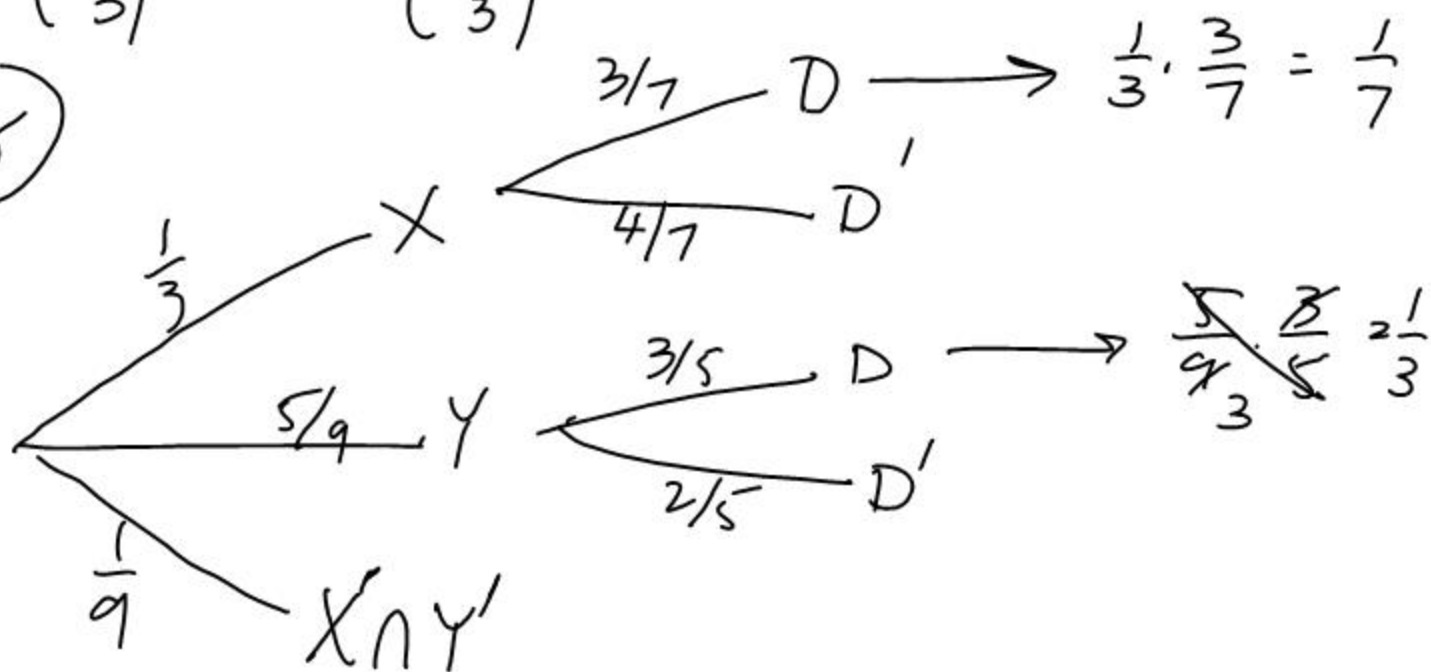
$$P(B|A) = P(B)$$

$$P(\text{both Agathe + Jacott}) = \frac{10}{\binom{12}{3}} = \frac{10}{220}$$

$$P(\text{not both Agathe + Jacott}) = 1 - \frac{10}{\binom{12}{3}}$$

$$\frac{\binom{10}{3}}{\binom{12}{3}} + \frac{\binom{11}{2}}{\binom{12}{3}} = \frac{210}{220}$$

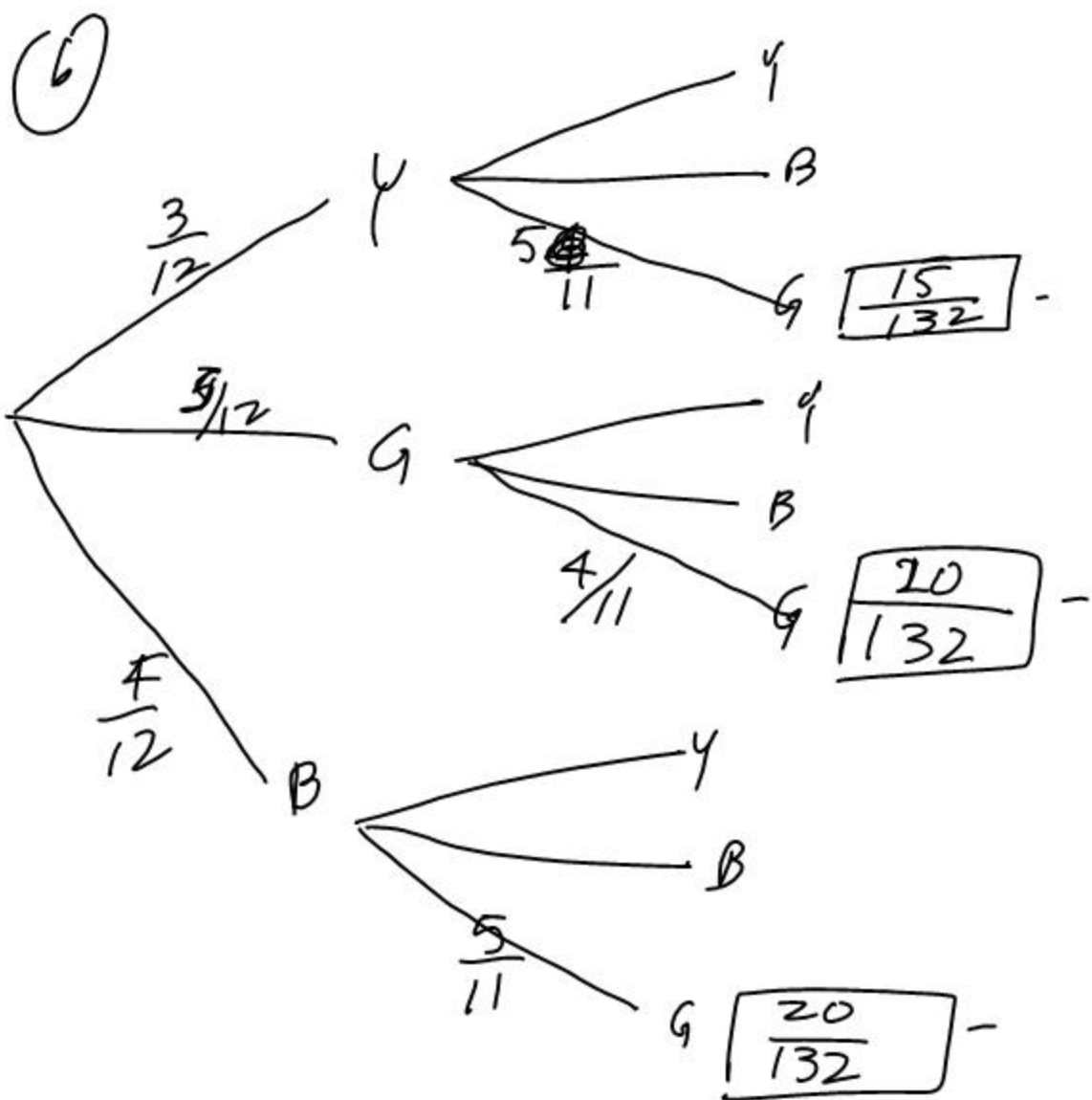
#5



$$P(\text{Div}) = \frac{1}{3} + \frac{1}{7} = \frac{10}{21}$$

$$P(Y | \text{div}) = \frac{P(Y \cap \text{div})}{P(\text{div})} = \frac{1/3}{10/21}$$

$$= \frac{7}{10}$$



$$P(1^{\text{st}} G | 2^{\text{nd}} G) = \frac{P(1^{\text{st}} G \cap 2^{\text{nd}} G)}{P(2^{\text{nd}} G)}$$

$$= \frac{\frac{20}{132}}{\frac{55}{132}} = \frac{4}{11}$$

$$\#8. \quad \mu = \frac{546}{30} = 18$$

$$\sigma^2 = \frac{9990}{30} - (18)^2 = 9$$

$$\sigma = 3$$

