Warm-Up – Chapter 5 Review

Name: _____

Date: _____

$$P(A) = \frac{\text{Total number of favourable outcomes}}{\text{Total number of outcomes in sample space}}$$

$$P(A') = 1 - P(A)$$

M.E.

$$P(A \cup B) = P(A) + P(B)$$

not M.E.

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

$$P(A \cap B) = P(A) \times P(B \mid A)$$

dependent

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

independent

D

1. The odds against rain tonight are 2:1. The probability of rain is

   a. 2
   b. $\frac{2}{3}$
   c. $\frac{1}{2}$
   d. $\frac{1}{3}$

ufav : fav

not rain : rain

total = 2+1 = 3

$P = \frac{1}{3}$

A

2. Select the dependent events.

   a. $P(A) = 0.21$, $P(B) = 0.6$, and $P(A \cap B) = 0.122$
   b. $P(A) = 0.8$, $P(B) = 0.52$, and $P(A \cap B) = 0.416$
   c. $P(A) = 0.74$, $P(B) = 0.85$, and $P(A \cap B) = 0.629$
   d. $P(A) = 0.46$, $P(B) = 0.9$, and $P(A \cap B) = 0.414$

B

3. A committee of 6 students is to be selected from 5 boys and 6 girls. The probability that there are exactly 2 boys on the committee is represented by

   a. $\frac{2}{11}$
   b. $\frac{{}_5C_2 \cdot {}_6C_4}{{}_{11}C_6}$
   c. $\frac{{}_5C_2}{{}_{11}C_6}$
   d. $\frac{{}_5C_2}{2 \cdot {}_6C_4}$

$P = \frac{{}_5C_2 \cdot {}_6C_4}{{}_{11}C_6}$ ← fav. / ← total

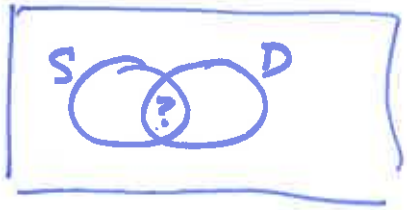
4. The probability that Vince will study on Friday night is 0.6. The probability that he will go out for dinner is 0.8. The probability that he will do at least one of these activities is 0.9. Determine the probability that he will do both activities.

$P(S) = 0.6$

$P(D) = 0.8$

$P(S \cup D) = 0.9$

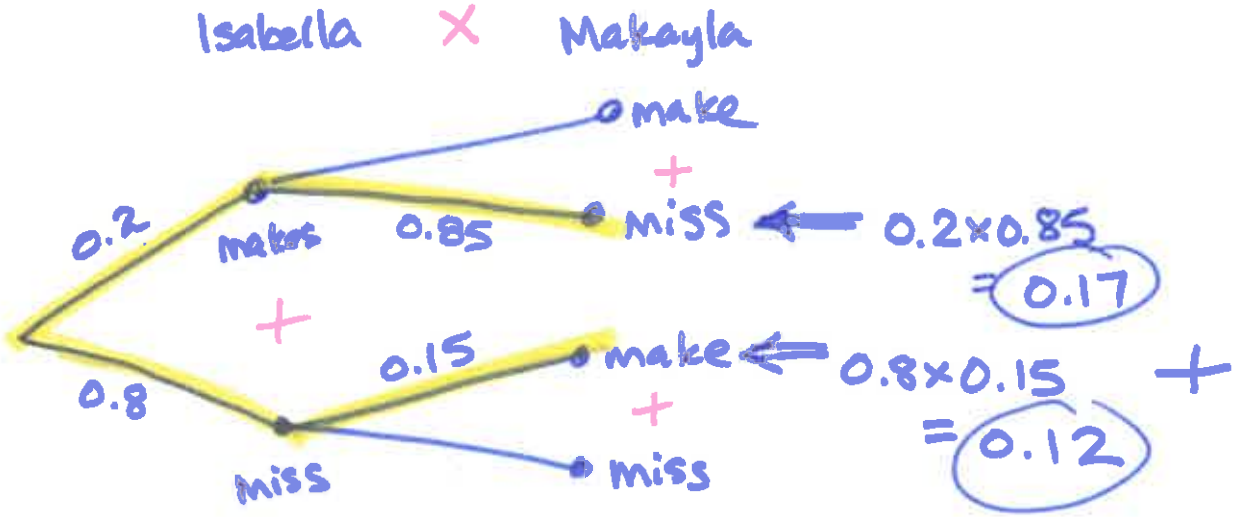
$P(S \cap D)$



$$P(S) + P(D) - P(S \cap D) = P(S \cup D)$$
$$0.6 + 0.8 - ? = 0.9$$
$$1.4 - ? = 0.9$$
$$? = 0.5$$

5. Isabella and Makayla each attempt a three-point shot in basketball. The probability that Isabella is successful is 0.2 and the probability that Makayla misses is 0.85. The events are independent.

   What is the probability that only one player is successful?



$0.17 + 0.12 = 0.29$