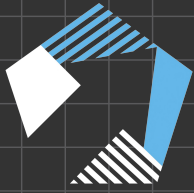


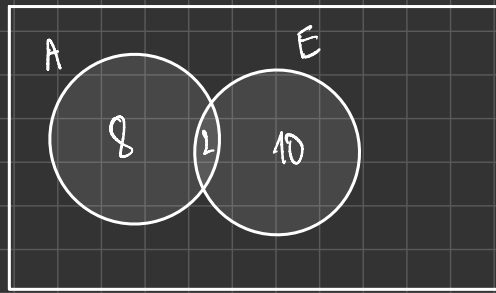
Troisième: Mathématiques - Probabilités.

Jourdi 19 février 2022.



Plus De
Bonnes
Notes

$\Omega = 20$



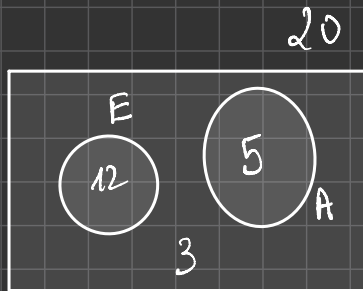
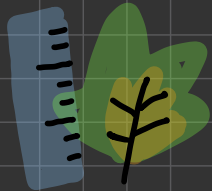
$$A \cup E: 10 + 8 - A \cap E$$

$$10 + 8 - 2 = 16$$

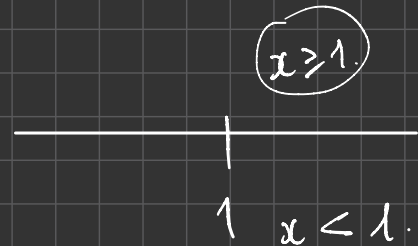


incompatibles.

$$P(A \cup B) = P(A) + P(B) \text{ si } A \text{ et } B \text{ sont}$$



\bar{E}



EXO 3767 1.

	Garçon	Fille	Total
Externe	2	3	5
Demi pensionnaire	9	11	20
Total	11	14	25

2. a. $P(F) = \frac{14}{25}$

2. b. $P(E) = \frac{5}{25} = \frac{1}{5}$

2. c. $P_D(G) = \frac{9}{20}$

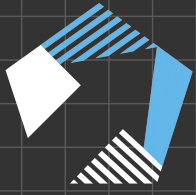


EXO 5086

1.

	Rondes	Baroques	Total
Grises	31	112	143
Vertes	13	64	77
Total	44	176	220





Plus De
Bonnes
Notes

$$2. a. P(B) = \frac{176}{220} = \frac{4}{5}$$

$$P(B \text{ et } V) = \frac{44}{220} = \frac{11}{55}$$

$$3. P_R(V) = \frac{13}{44}$$

Application: On considère une urne qui contient:

- 3 boules bleues
- 4 boules vertes
- 3 boules rouges.

Les boules sont indiscernables au toucher. Luc prend successivement sans remise 2 boules de l'urne. Il note les couleurs obtenues.

Attention!! $(R;V) \neq (V;R)$.

1- Dresser un arbre pour illustrer la situation.

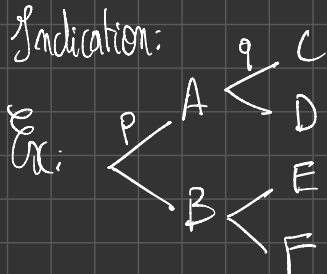
2- En déduire l'univers Ω : $\Omega = \{(R;R); (B;V) \dots\}$.

3- Calculer la probabilité d'obtenir 2 boules de couleur identiques: A

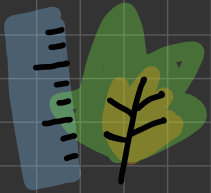
4- Calculer la probabilité d'obtenir des boules de couleur différente: B.

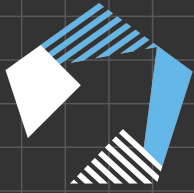
5- Calculer la probabilité d'obtenir au moins une boule verte: C

Indication:

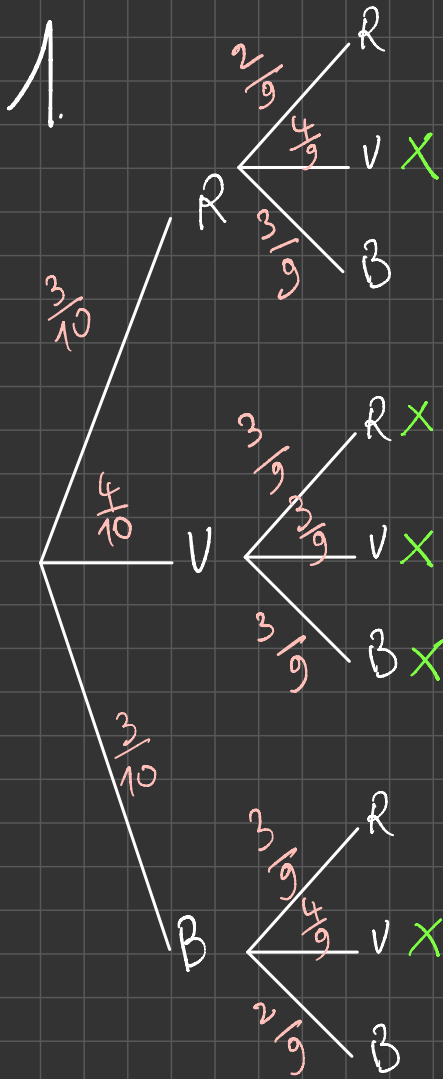
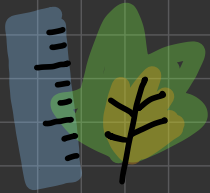


$$P(A \text{ et } C) = p \times q.$$





Plus De
Bonnes
Notes



2. $\Omega = \{(R;R); (R;V); (R;B); (V;R); (V;V); (V;B); (B;R); (B;V); (B;B)\}$.

3. $P(A) = P(R;R) + P(V;V) + P(B;B)$.

$$= \frac{3}{10} \times \frac{2}{9} + \frac{4}{10} \times \frac{3}{9} + \frac{3}{10} \times \frac{2}{9}$$

$$= \frac{6+12+6}{90} = \frac{24}{90}$$

$$= \frac{12}{45} = \frac{4}{15}$$

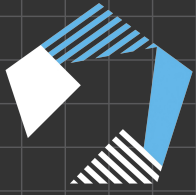
4. $P(B) = P(R;V) + P(R;B) + P(V;B) + P(V;R) + P(B;R) + P(B;V)$

$$= \frac{3}{10} \times \frac{4}{9} + \frac{3}{10} \times \frac{3}{9} + \frac{4}{10} \times \frac{3}{9} + \frac{4}{10} \times \frac{3}{9} + \frac{3}{10} \times \frac{3}{9} + \frac{3}{10} \times \frac{4}{9}$$

$$= \frac{12 + 9 + 12 + 12 + 9 + 12}{90}$$

$$= \frac{4 \times 12 + 2 \times 9}{90} = \frac{48 + 18}{90} = \frac{66}{90} = \frac{11}{15}$$

$$P(B) = 1 - P(\bar{B}) = 1 - P(A) = 1 - \frac{4}{15} = \frac{11}{15}$$



Plus De
Bonnes
Notes

$$\begin{aligned} 5. P(C) &= P(R;V) + P(V;B) + P(V;V) + P(V;R) + P(B;V) \\ &= \frac{3}{10} \times \frac{4}{9} + \frac{4}{10} \times \frac{3}{9} + \frac{4}{10} \times \frac{3}{9} + \frac{4}{10} \times \frac{5}{9} + \frac{3}{10} \times \frac{4}{9} \\ &= 5 \times \frac{3}{10} \times \frac{4}{9} = \frac{4}{6} = \boxed{\frac{2}{3}} \end{aligned}$$



EXO 5087

$$1. P(P) = \frac{28}{49} = \frac{7 \times 4}{7 \times 7} = \frac{4}{7}$$

2.

$$\frac{20}{20+3+x} = \frac{4}{7} \Leftrightarrow \frac{20}{23+x} = \frac{4}{7}$$

$$4 \times (23+x) = 7 \times 20$$

$$23+x = \frac{140}{4}$$

$$23+x = 35$$

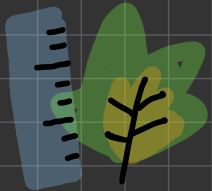
$$x = 35 - 23$$

$$\boxed{x = 12}$$

Ench2: 20 poules; 15 oies

Vérification.

$$P(P) = \frac{20}{35} = \frac{4 \times \cancel{5}}{7 \times \cancel{5}} = \frac{4}{7}$$



EXO 5045

