

Ugo

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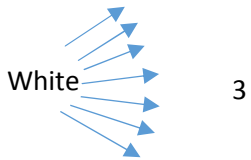
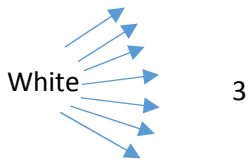
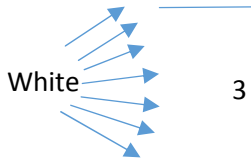
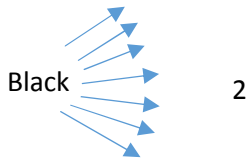
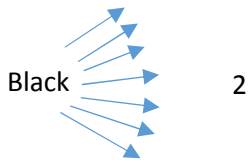
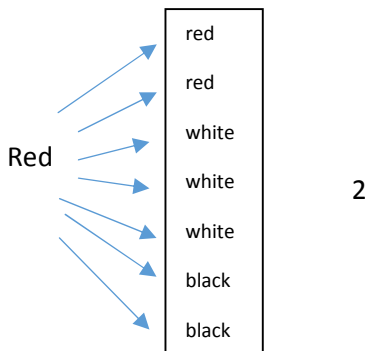
4°Eiffel

03/05/2018

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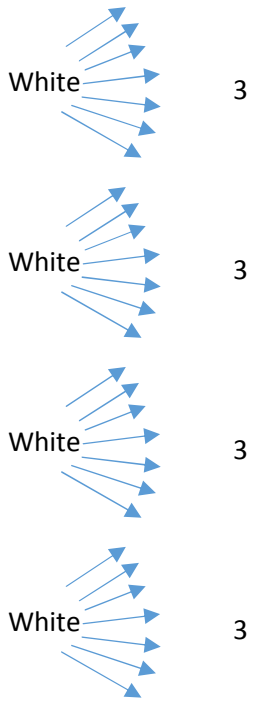
Short : 1 red, 2 black, 7 white

T-shirt : 2 red, 2 black, 2 white



2 possibilities to have a single color for shorts + t-shirt.

3 possibilities to have a single color for shorts + t-shirt.

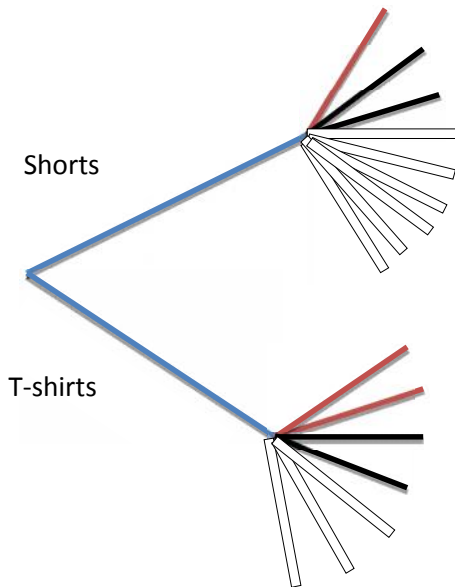


There are 70 possibilities

So out of 70 possibilities, there are 27 chance that shorts and t-shirts will be the same color.

DM n°13

I draw a tree to find how many chances Amaury will have a single-colored outfit.



Calculations:

$$\text{For red single-colored: } \frac{1}{10} \times \frac{2}{7} = \frac{2}{70} = 2,8\%$$

$$\text{For black single-colored: } \frac{2}{10} \times \frac{2}{7} = \frac{4}{70} = 5,7\%$$

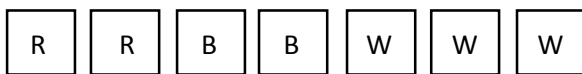
$$\text{For white single-colored: } \frac{7}{10} \times \frac{3}{7} = \frac{21}{70} = 30\%$$

$$2,8 + 5,7 + 30 = 38,5\%$$

Amaury has 38,5% of chances to get a single-colored outfit.

4°Galois

R = Red B = Black W = White

Amaury has 10 shorts :**Amaury has 7 T-shirts :****Shorts**

R : He has 1 in 10 chance of having a red short.

B : He has 2 in 10 chances of having a black short.

W : He has 7 in 10 chances of having a white short.

T-shirts

R : He has 2 in 7 chances of having a red T-shirt.

B : He has 2 in 7 chances of having a black T-shirt.

W : He has 3 in 7 chances of having a white T-shirt.

Shorts and T-shirtsR : $1/10 * 2/7 = 2/70$ He has 2 in 70 chances of having a red outfit.B : $2/10 * 2/7 = 4/70$ He has 4 in 70 chances of having a black outfit.W : $7/10 * 3/7 = 21/70$ He has 21 in 70 chances of having a white outfit.**Total**

$$T = 2 + 4 + 21 / 70$$

$$T = 27/70$$

Amaury has 27 in 70 chances of having a single-colored outfit.

There are 10 shorts : 1 red, 2 black, 7 white.

There are 7 t-shirts : 2 red, 2 black, 3 white.

1) How many chances for shorts :

$$\text{Red shorts} = \frac{1}{10}$$

$$\text{Black shorts} = \frac{2}{10}$$

$$\text{White shorts} = \frac{7}{10}$$

2) How many chances for t-shirts :

$$\text{Red t-shirts} = \frac{2}{7}$$

$$\text{Black t-shirts} = \frac{2}{7}$$

$$\text{White t-shirts} = \frac{3}{7}$$

3) How many chances for Amaury to have a single-colored outfit :

$$\text{Red} = \frac{1}{10} \times \frac{2}{7} = \frac{2}{70}$$

$$\text{Black} = \frac{2}{10} \times \frac{2}{7} = \frac{4}{70}$$

$$\text{White} = \frac{7}{10} \times \frac{3}{7} = \frac{21}{70}$$

$$\frac{2}{70} + \frac{4}{70} + \frac{21}{70} = \frac{27}{70}$$

There are $\frac{27}{70}$ chances for Amaury to have a single-colored outfit.