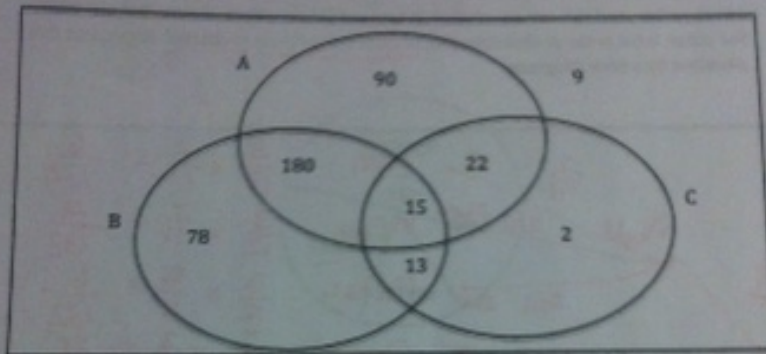


Question 1:

A survey was conducted at school to see who would sign up for which cafeteria food they would like if it was offered.



- A: Mac & Cheese
- B: Pizza
- C: Fish Tacos

a) How many people are in the school?  $78 + 180 + 90 + 22 + 15 + 13 + 2 + 9 = 409$

b) What is the probability someone wants likes all 3?  $\frac{15}{409}$

c) What is the probability of liking pizza and mac and cheese?  $180 + 15 = \frac{195}{409}$

d) What is the probability that someone likes only one thing?  $90 + 78 + 2 = \frac{170}{409}$

e) What is the probability that someone does not like fish tacos?  $78 + 180 + 90 + 9 = \frac{357}{409}$

f) What is the probability that someone likes mac and cheese but not pizza?  $90 + 22 = \frac{112}{409}$

g) Which of the 3 foods is the most popular?

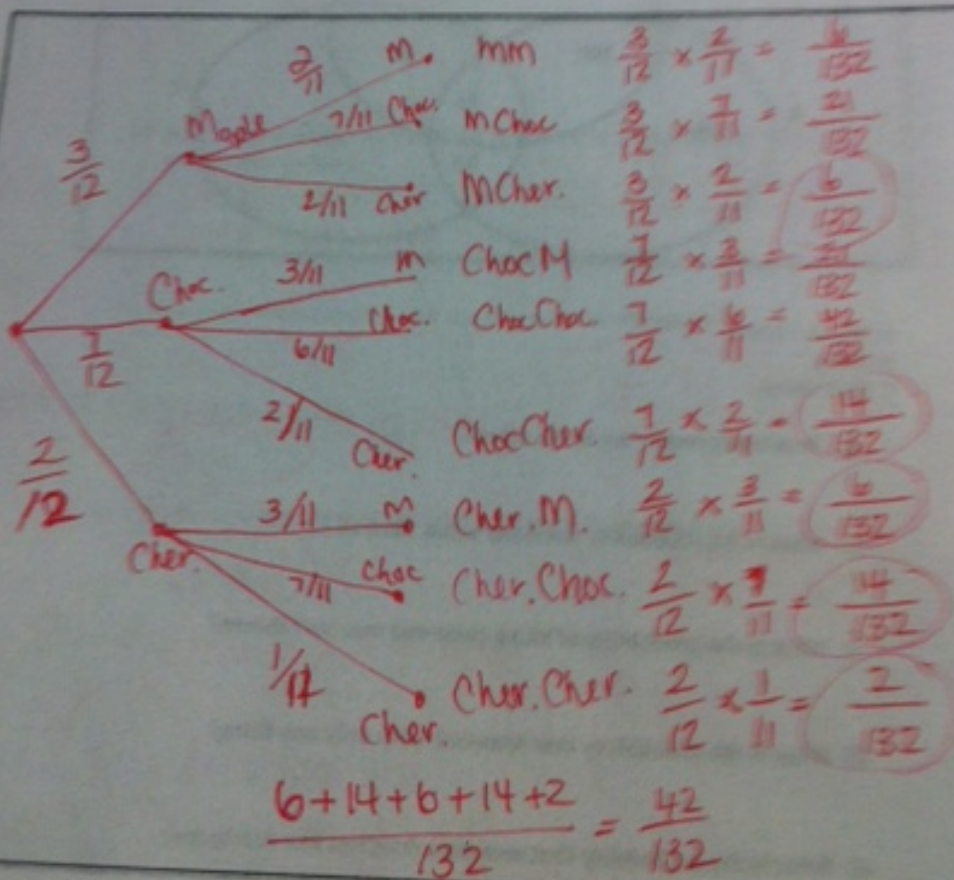
A:  $180 + 90 + 22 + 15 = 307$

B:  $180 + 78 + 15 + 13 = 286$

C:  $22 + 15 + 13 + 2 = 52$

Question 2:

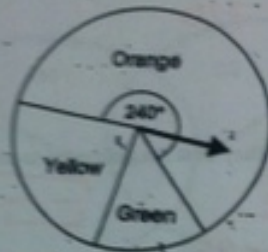
Someone shows up with a dozen donuts for a party. Three of the donuts are maple, 7 are chocolate and the rest are cherry. If two people are taking donuts one after the other, what is the probability that at least one of them is cherry? Represent this situation by a tree diagram.



Probability of getting at least one cherry donut:

Question 3:

A circular wheel is divided into three different coloured sectors. In the orange sector, the central angle measures 240 degrees.



A pointer is attached to the centre of the wheel. When someone spins the pointer, it can stop anywhere on the wheel.

The probability that the pointer will stop on the green sector is  $\frac{3}{15}$ .

What is probability that the pointer will stop on the yellow sector?

$$\frac{3}{15} = \frac{x}{360}$$

$$72 = x$$

$$360 - 72 - 240 = 48^\circ$$

Question 4:

There's 4 boys and 2 girls who want to sit in 6 chairs.

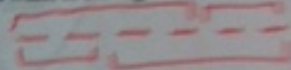
- a) How many ways can they sit if there's no restriction?

$$6! = 720$$

- b) How many ways can they sit if the girls want to sit together and the boys want to sit together?

$$4! \times 2! \times 2$$

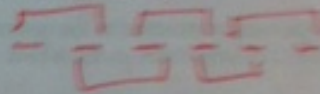
$$24 \times 2 \times 2 = 96$$



- c) How many ways can they sit if the girls want to sit together?

$$4! \times 2! \times 5$$

$$24 \times 2 \times 5 = 240$$



- d) How many ways can they sit if the boys want to sit together?

$$4! \times 2! \times 3$$

$$24 \times 2 \times 3 = 144$$

