

q (b)

2

$$\frac{7 \times 5}{11 \times (5+1)}$$

$$= \frac{35}{66}$$

q (c)

$$1 - \frac{4 \times 3}{11} = \frac{3}{11} + \frac{2}{11} =$$

$$\frac{(3 \times 3) + (2 \times 2)}{11 \times 6}$$

$$= \frac{9}{66} + \frac{4}{66}$$

$$= \frac{13}{66}$$

q (d)

$$\frac{1}{66} \text{ Selecting 1 cd} = \frac{1}{66}$$

we have 4 cds
hence

$$\frac{1 \times 4}{66} = \frac{2}{33}$$

11a

$$\frac{5}{40} \times \frac{5}{40} = \frac{25}{1600} = \frac{1}{64}$$

(b)

$$\left(\frac{5}{40} \times \frac{5}{40} \right) + \left(\frac{5}{40} \times \frac{35}{40} \right) = \frac{25 + 175}{1600}$$

$$= \frac{200}{1600} = \frac{1}{8}$$

(c)

$$\frac{5}{40} \times \frac{35}{40} = \frac{175}{1600}$$

$$= \frac{7}{64}$$

(d)

$$1 - \frac{1}{64}$$

$$= \frac{63}{64}$$

(b)

(i) manual -> Picking randomly after mixing the Chocolates effectively

(ii) use of full sampling method in which a chocolate is picked number given

11 c) No

Theoretical probabilities might be different from ~~the~~ calculated probabilities

11 d

$$\left(\frac{10}{40} \times \frac{10}{40}\right) + \left(\frac{10}{40} \times \frac{30}{40}\right)$$

$$\frac{100}{1600} + \frac{300}{1600} = \frac{400}{1600}$$

$$= \frac{1}{4}$$

yes it will double.

(a) 1. There are 5 Siblings

If 3 girls sit at the centre

Then the two boys are at each corner

$$\frac{1}{5} \times \frac{1}{2} = \frac{1}{10}$$

(b)

Girls are 3,

boys are 2.

Total 5

$$\frac{1}{3} \times \frac{1}{2} \times \frac{1}{10}$$

$$= \frac{1}{60}$$

(i) Total number of cd = 12

(ii) Soundgarden = 4

$$\text{Not Soundgarden} = 12 - 4 = 8$$

$$\text{Picking one} = 8 - 1 = 7$$

$$12 - 1 = 11$$

$$\frac{7 \times 1}{11 (5+4)}$$

$$= \frac{7}{99}$$

1

(3) A die has 6 faces

1, 2, 3, 4, 5, 6

2, 3 and 5 are prime numbers

probability of getting a prime number at

$$\text{one roll} = \frac{1}{2}$$

$$\left(\frac{1}{2}\right)^{10} = \frac{1}{1024}$$

(4)

Probability she will be late = 0.25

probability she will bump = 0.2

$$0.25 \times 0.2$$

$$= 0.05$$

(5)

(a) Working in paper mill = 65

Working in water plant = 30

$$\frac{65}{150} + \frac{30}{150} = \frac{95}{150} = \frac{19}{30}$$

$$(b) \quad \frac{19}{30} = \frac{11}{30}$$

(c) No one works both in paper mill and water plant

Type A $\rightarrow$ dominant to Type O

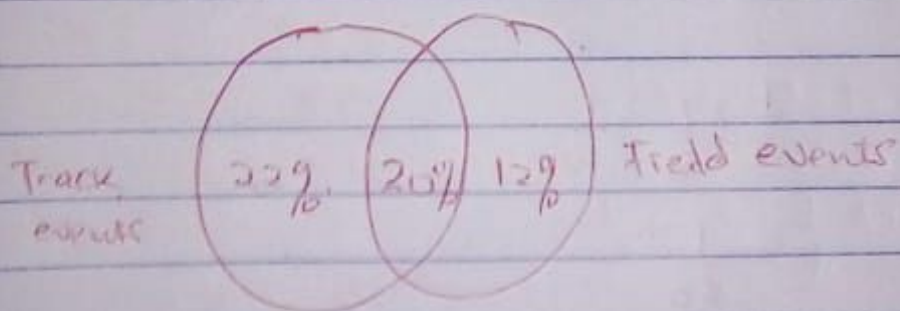
~~Type~~ ^{parents} both have Type A and one type O

child will have 2 Type A and 1 type O genes

$$1:2+1$$

$$1:3$$

(a)



(b)

$$42 + 32 = 74$$

$$100 - 74 = 26$$

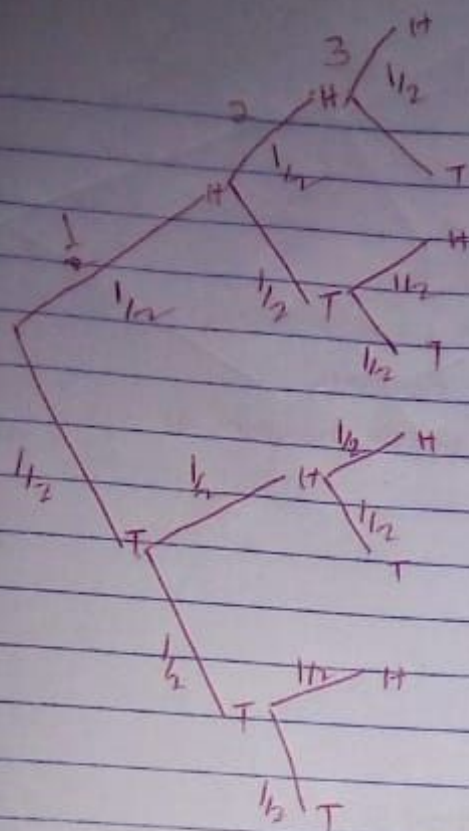
$$10 \cdot 26\% + 20\% = 46\%$$

$$= 0.46$$

(c)

$$1 - 0.46$$

$$= 0.54$$



$P(HHH)$ or $P($

$$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$$

$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8}$ for all the 3 tosses getting a head.

For single toss, $P(H) = \frac{1}{2}$

For head to be on top atleast once

$$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{3}{2}$$

$$= \frac{7}{8}$$

(2)

(a) 3 Pensils, four pens, 2 markers

$$3 + 2 + 4 = 9$$

$$\frac{4}{9} + \frac{2}{9} = \frac{6}{9} = \frac{2}{3}$$

(b) * There are 4 pens

$$9 - 4 = 5$$

$$4:5$$