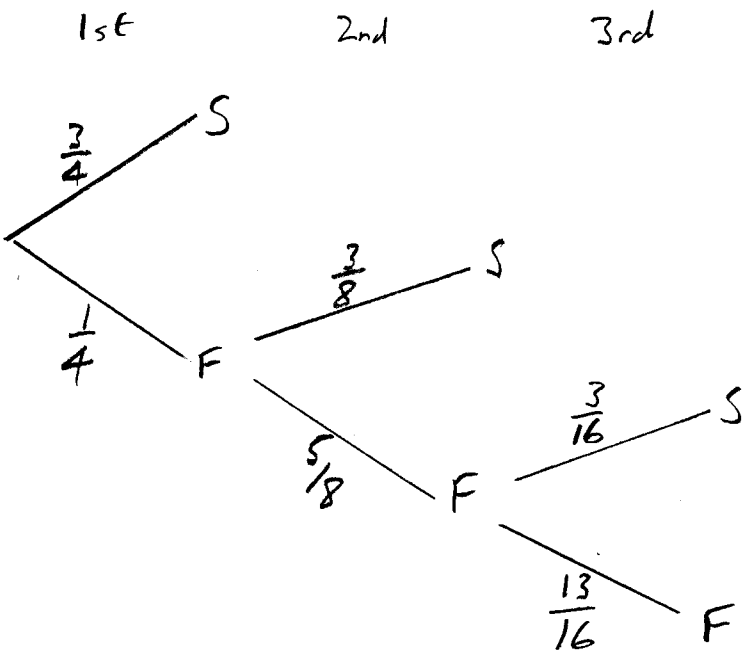
STATS 1 REVISION PROBABILITY (FROM OCR PAPERS)

1)

i)



$$\text{Prob(Succeeds)} = 1 - \text{Prob(Fails)}$$

$$= 1 - \frac{1}{4} \times \frac{5}{8} \times \frac{13}{16}$$

$$= 1 - \frac{65}{512} = \frac{447}{512} \quad \text{or} \quad 0.8730$$

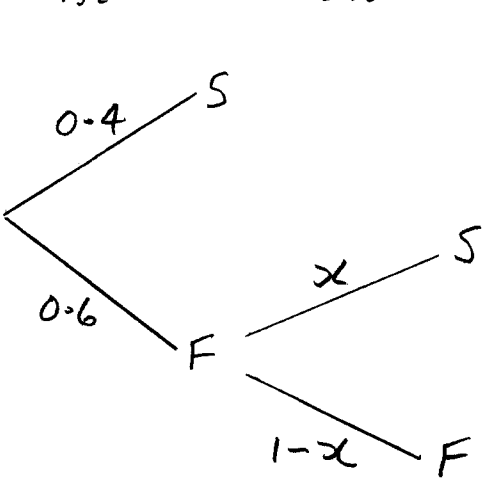
Alternatively

$$\text{Prob(Succeeds)} = \frac{3}{4} + \frac{1}{4} \times \frac{3}{8} + \frac{1}{4} \times \frac{5}{8} \times \frac{3}{16}$$

$$= \frac{3}{4} + \frac{3}{32} + \frac{15}{512} = \frac{447}{512} \quad \text{or} \quad 0.8730$$

STATS 1 REVISION PROBABILITY (FROM OCR PAPERS)

1 ii)



If first attempt is a fail, then let P(Succeeds 2nd attempt) be x.

Now P(Succeeds) = 0.58 is given

$\therefore \quad 0.4 + 0.6x = 0.58$

$0.6x = 0.58 - 0.4$

$0.6x = 0.18$

$x = \frac{0.18}{0.6}$

$x = 0.3$

P(Succeeds 2nd attempt / fails 1st attempt) = 0.3