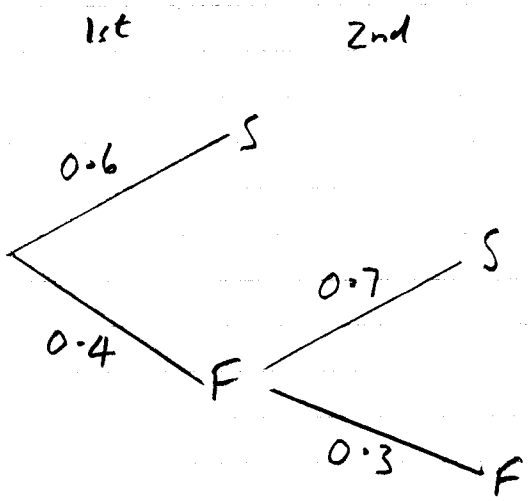
STATS 1 REVISION PROBABILITY (FROM OCR PAPERS)

3) i)

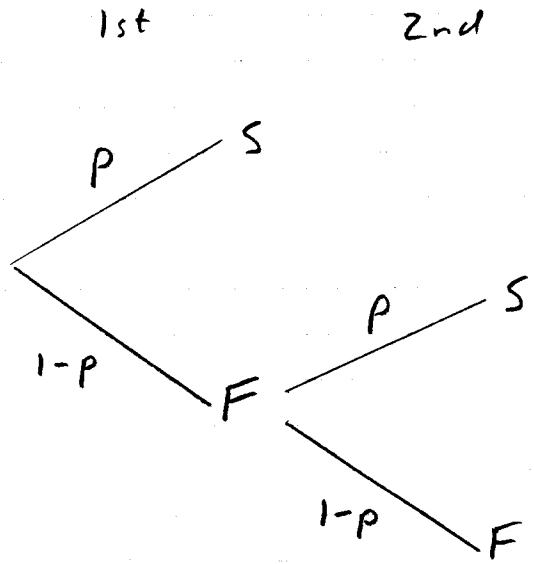


✓ 0.6

✓ $0.4 \times 0.7 = 0.28$

$P(\text{Succeeds}) = 0.6 + 0.28 = 0.88$

ii)



$P(\text{Succeeds}) = p + (1-p)p = 0.51$

$\Rightarrow \quad p + p - p^2 = 0.51$

$0 = p^2 - 2p + 0.51$

$p = \dfrac{2 \pm \sqrt{4 - 4 \times 0.51}}{2} \qquad p = \dfrac{2 \pm \sqrt{1.96}}{2}$

$p = \dfrac{2 \pm 1.4}{2} \quad \Rightarrow \quad \cancel{p = 1.7} \text{ or } p = 0.3$

$\therefore \quad p = 0.3$