

a) $N = N_0 e^{kt}$ $t = \text{years}$

$18 = 18e^{k \times 0} \in 1923$

$5000 = 18e^{k \times 90} \in 1993$

$5000 = 18e^{90k}$

$277\frac{7}{9} = e^{90k}$

$\log_e 277\frac{7}{9} = 90k$

$90k = 5.626821434$

$k = 0.062520238$

$N = ?$ In year 2001

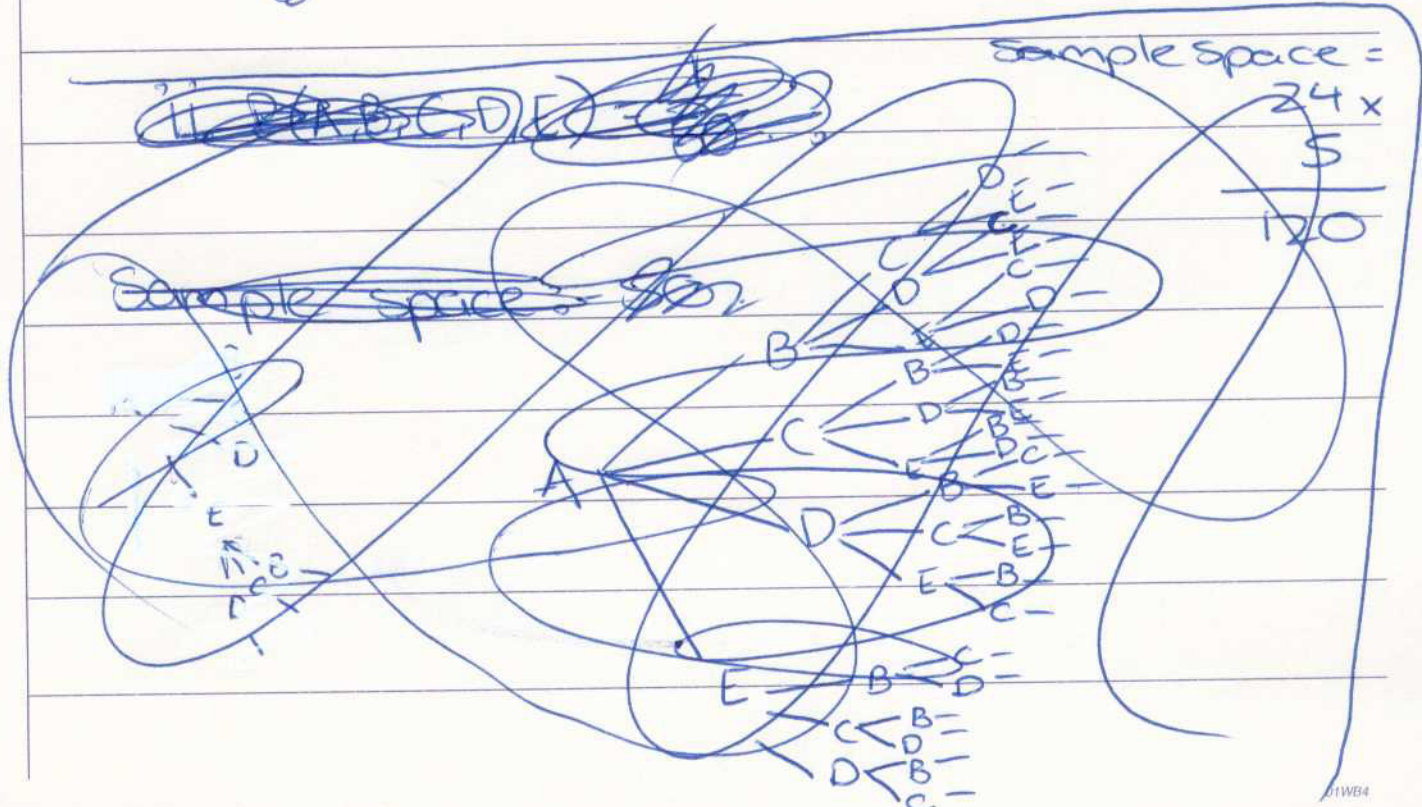
$N = 18e^{0.062520238 \times 98}$

$N \approx 8245$ koalas yr 2001

b) $P(A \text{ drawn 1st}) = \frac{1}{5}$

Sample Space =
24 x
5

120





ii. sample space = $24 \times 5 = 120$

$$P(A, B, C, D, E) = \frac{1}{120}.$$

c)