

ES # 1

$$\begin{array}{c} + \quad m \quad m \\ + \quad + \quad + \\ \hline l \quad + \quad + \end{array} \times \begin{array}{c} l \quad m \quad m \\ \hline l \quad m \quad m \end{array}$$

$$d_{l-m} = \frac{40 + 54 + 1 + 0}{860} = \frac{125}{860} = 0.14 \rightarrow 14\mu$$

$$d_{m-m} = \frac{19 + 20 + 1 + 0}{860} = \frac{40}{860} = 0.046 \rightarrow 4.6\mu$$

$$cc = \frac{1/860}{0.14 \times 0.046} = \frac{0.0012}{0.0064} = 0.187$$

$$I = 1 - 0.187 = 0.813 \rightarrow 81.3\%$$

ES # 2

(a) 4

(b) 1, 3, 5

(c) 2

ES # 3

III 3 x IV 3

AA

Aa

Aa

$$= \frac{1}{9}$$

$$P = \frac{1}{8} + \frac{2}{8} + \frac{1}{8} = \frac{4}{8}$$

$\frac{1}{3}$

x

$\frac{2}{3}$

=

$\frac{1}{2}$

Aa

x

Aa

=

Aa

$$= \frac{2}{9}$$

$\frac{2}{3}$

x

$\frac{2}{3}$

=

$\frac{1}{2}$

$$= \frac{2}{9}$$

Aa

x

AA

=

Aa

$$= \frac{1}{9}$$

$\frac{2}{3}$

x

$\frac{1}{3}$

=

$\frac{1}{2}$

$$= \frac{1}{9}$$

CS # 4

$$p^N = \frac{326 + (2 \times 292) + 56}{(2 \times 360) + 380} = \frac{966}{1100} = 0.87$$

$$p^M = 1 - 0.87 = 0.13$$