1) a) $1/0.45 = 2.22$

b) $\frac{1}{0.45^2} = 4.94$

c) $1-(1-e^{(-0.45)\times 3}) = 0.26$

2) $1-e^{-0.45m} = 0.5$

$e^{-0.45m} = 0.5$

$m = 1.54$

3) a) $1/0.25 = 4$

b) $1/0.25^2 = 16 \quad \sqrt{16} = 4$

c) $1-e^{(-0.25)\times 3} = 0.53$

d) $1-(1-e^{(-0.25)\times 11})$

$e^{-2.75} = 0.06$

e) $1-e^{-0.25m} = 0.5$

$e^{-0.25m} = 0.5$

$m = -\frac{\ln(0.5)}{0.25} \quad m = 2.77$

f) $1-e^{-0.25q_3} = 0.75$

$q_3 = -\frac{\ln(0.25)}{0.25} = 5.545$

g) $e^{-0.25p(x)} = 0.01$

$p_{99} = -\frac{\ln(0.01)}{0.25} = 18.42$

41) a) $\frac{1}{12} = 0.08\overline{3}$

b) $e^{-c/12} = 1 - 0.5$

$-\frac{c}{12} = \ln(0.5)$

$\frac{c}{12} = 0.69314 \quad c = 8.31$

c) $\frac{1}{0.08\overline{3}} = 12$

2) $-\frac{c}{12} = \ln(0.35)$

$\frac{c}{12} = 1.0491 \quad c = 12.59$

7) a) $\frac{50}{12} = 4.16 \quad \frac{e^{-4.16} \cdot 4.16^5}{5!} = 0.161$

$P(X>2) = 1 - P(X \leq 2)$

b) $1 - (0.15 \ldots + 0.31 \ldots + 0.26)$

$= 0.23041$

c) $\frac{15}{12} = 1.25 \quad P(X=0) = \frac{e^{-1.25} \cdot 1.25^5}{0!} =$

0.2865

2) $1 - F(15)$

$1 - (1 - e^{-15/12})$

$e^{-1.25} = 0.2865$

e) $1 - e^{-20/12} - (1 - e^{-3/12})$

$= 0.3246$

$(3.6)^n$

$n!$

$\ldots +$