1(a)	$e^{-3}(\frac{3^3}{3!}+\frac{3^4}{4!}) = e^{-3}(4.5 + 3.375) = 0.22404 + 0.16803$
	$= 0.392$ (3 sf)
1(b)	$\lambda = 5$
	$1 - e^{-5}(1 + 5 + \frac{5^2}{2!}) = 1 - e^{-5}(1+5+12.5)$ $= 1 - (0.0067379 + 0.0336897 + 0.0842243)$
	$= 0.875$ (3 sf)
1(c)	$T \sim N(600, 600)$
	$\frac{559.5-600}{\sqrt{600}}$ $[= -1.653]$
	$\Phi('-1.653') = 1 - \Phi('1.653')$
	$= 0.0492$ (3 sf) or 0.0491

3(a)	$\lambda = 1.45$
	$e^{-1.45}\left(1 + 1.45 + \frac{1.45^2}{2!} + \frac{1.45^3}{3!}\right) = e^{-1.45}(1+1.45+1.05125+0.5081041)$
	$= 0.94[0]$ or 0.941
3(b)	$e^{-14500p}$ seen or $2e^{-1.45}$ [$= 0.46914$] seen
	$e^{-14500p} = 2e^{-1.45}$ [$\Rightarrow -14500p = \ln 2 + (-1.45)$]
	$p = 0.0000522$ (3 sf)

1(a)	Computers are donated independently or singly or randomly
1(b)	$\lambda = 9.6$
	$e^{-9.6}(\frac{9.6^7}{7!} + \frac{9.6^8}{8!}) = e^{-9.6}(1490.97 + 1789.16) = 0.10098 + 0.12118$
	$= 0.222$ (3 sf)
1(c)	$N(48, 48)$
	$\frac{50.5-48}{\sqrt{48}}$ [= 0.361]
	$1 - \Phi$('0.361')
	$= 0.359$ (3 sf)

1	$(\lambda) = 4$
	$e^{-4}\left(1+4+\frac{4^2}{2!}+\frac{4^3}{3!}\right)=e^{-4}(1 + 4 + 8 + 10.6666)$ $= 0.018316 + 0.073263 + 0.146525 + 0.19537$
	$= 0.433$

5(a)(i)	$e^{-3.5}\left(\frac{3.5^3}{3!}+\frac{3.5^4}{4!}+\frac{3.5^5}{5!}\right) = e^{-3.5}(7.1458 + 6.2526 + 4.37682) =$ $0.21579 + 0.18881 + 0.13217$
	$= 0.537$
5(a)(ii)	Use of $N(1.2 \times 100 + 2.3 \times 200, \ldots) = N(580, \ldots.)$
	$\text{Var}(S) = 1.2 \times 100 + 2.3 \times 200 = 580$
	$\frac{600.5 - '580'}{\sqrt{'580'}}$
	$= 0.851$
	$1 - \Phi('0.581')$
	$= 0.197$ (3sf)
5(b)	$\frac{5}{2}\times\frac{\lambda^3}{3!}+\frac{\lambda^4}{4!}=\frac{\lambda^5}{5!}$ Or $\left(\frac{5}{2}\right)e^{-\lambda}\left(\frac{\lambda^3}{3!}\right)+e^{-\lambda}\left(\frac{\lambda^4}{4!}\right)=e^{-\lambda}\left(\frac{\lambda^5}{5!}\right)$
	$\lambda^2 - 5\lambda - 50 = 0$
	$(\lambda - 10)(\lambda + 5) = 0$ or $\lambda = \frac{5 \pm \sqrt{25 + 4 \times 50}}{2}$ $\lambda = 10$