

1(a)	$e^{-3} \left(\frac{3^3}{3!} + \frac{3^4}{4!} \right) = e^{-3}(4.5 + 3.375) = 0.22404 + 0.16803$
	$= 0.392 \text{ (3 sf)}$
1(b)	$\lambda = 5$
	$1 - e^{-5} \left(1 + 5 + \frac{5^2}{2!} \right) = 1 - e^{-5}(1+5+12.5)$
	$= 1 - (0.0067379 + 0.0336897 + 0.0842243)$
	$= 0.875 \text{ (3 sf)}$
1(c)	$T \sim N(600, 600)$
	$\frac{559.5-600}{\sqrt{600}} [= -1.653]$
	$\Phi(-1.653) = 1 - \Phi(1.653)$
	$= 0.0492 \text{ (3 sf) or } 0.0491$
6(a)	$N(2.5 + 0.8, 0.05 + 0.02) = N(3.3, 0.07)$
	$\frac{3.55-3.3}{\sqrt{0.07}} [= 0.945]$
	$1 - \Phi(0.945)$
	$= 0.172 \text{ (3 sf)}$

6(b)	$E(D) = 2.5 - 3 \times 0.8 = 0.1$
	$\text{Var}(D) = 0.05 + 3^2 \times 0.02 = 0.23$
	$\frac{0 - ('0.1')}{\sqrt{'0.23'}} [= -0.2085 \text{ or } 0.209 \text{ or } 0.208]$
	$\Phi(' -0.2085') = 1 - \Phi('0.2085')$
	$= 0.417 \text{ (3 sf) or } 0.418$

2(a)	$\text{Var}(Y) = 4$
	$\text{Var}(X + Y) = 3^2 + '4'$
	$\text{sd of } X + Y = \sqrt{13} = 3.61$
2(b)	$\text{Var}(5X) = 5^2 \times 3^2$
	$\text{Var}(5X - Y) = \text{Var}(5X) + \text{Var}(Y) = "5^2 \times 3^2" + "4"$
	$\text{sd of } 5X - Y = \sqrt{229} \text{ or } 15.1 \text{ (3 sf)}$

4(a)	Mean = 6 [\$]
	Variance = $0.40^2 \times 9$
	= 1.44 [\$^2\$]
4(b)	Mean = $35 \times '6' = 210$ [\$]