

1(a)	$e^{-3}(\frac{3^3}{3!} + \frac{3^4}{4!}) = e^{-3}(4.5 + 3.375) = 0.22404 + 0.16803$
	$= 0.392 \text{ (3 sf)}$
1(b)	$\lambda = 5$
	$1 - e^{-5}(1 + 5 + \frac{5^2}{2!}) = 1 - e^{-5}(1+5+12.5)$ $= 1 - (0.0067379 + 0.0336897 + 0.0842243)$
	$= 0.875 \text{ (3 sf)}$
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)	$\text{Mean} = 6 \text{ [\$]}$
	$\text{Variance} = 0.40^2 \times 9$
	$= 1.44 \text{ [\$^2]}$
4(b)	$\text{Mean} = 35 \times 6 = 210 \text{ [\$]}$