Question Number	Scheme	Marks
5(a)	$\frac{9}{25} = x + x - x^2$ oe or $1 - 2x + x^2 = \frac{16}{25}$ oe	M1
	$\left[(5x-1)(5x-9) = 0 \Rightarrow\right] x = \frac{1}{5}$ or $\left[(1-x)^2 = \frac{16}{25} \Rightarrow\right] x = \frac{1}{5}$	A1
		(2)
(b)(i)	$3\mathrm{P}(C \cap D) = \frac{11}{20} + \mathrm{P}(D) - \mathrm{P}(C \cap D)$	M1
	$\frac{6}{13}\mathrm{P}(D) = \mathrm{P}(C \cap D)$	M1
	$4\left(\frac{6}{13}\mathrm{P}(D)\right) = \frac{11}{20} + \mathrm{P}(D)$ oe	M1
	$\mathrm{P}(D) = \frac{13}{20}$	A1
		(4)
(b)(ii)	$\mathrm{P}(C \cap D) = \frac{3}{10}$	B1ft
	$\left[\mathrm{P}(D \mid C') =\right] \frac{\mathrm{P}(D \cap C')}{\mathrm{P}(C')} = \frac{7/20}{9/20} = \frac{7}{9}$	M1A1
		(3)

	Notes		Total 9
(a)	**M1**	for a correct 3TQ May be implied by $x = \frac{1}{5}$ or $x = \frac{9}{5}$	
	A1	Oe If $x = \frac{9}{5}$ is stated then it must be rejected	
(b)(i)	**M1**	for writing or using $\mathrm{P}(C \cup D) = \mathrm{P}(C) + \mathrm{P}(D) - \mathrm{P}(C \cap D)$	
	M1	for use of $\mathrm{P}(C \mid D) = \frac{6}{13}$ e.g. $\frac{6}{13} = \frac{\mathrm{P}(C \cap D)}{\mathrm{P}(D)}$ May be embedded in an equation to find the P(D)	
	M1	for setting up a correct equation in terms of P(D) only Allow equivalent equations e.g. $\mathrm{P}(D)\left(4\left(\frac{6}{13}\right) - 1\right) = \frac{11}{20}$ or $\frac{\frac{1}{4}\left(\frac{11}{20} + \mathrm{P}(D)\right)}{\mathrm{P}(D)} = \frac{6}{13}$ May be implied by $\mathrm{P}(D) = \frac{13}{20}$ oe	
	A1	Oe	
(b)(ii)	**B1ft**	for $\mathrm{P}(C \cap D) = \frac{3}{10}$ ft their P(D) e.g. $\frac{6}{13} \times "\frac{13}{20}"$ May be seen in (b)(i) May be implied by $\mathrm{P}(D \cap C') = \frac{7}{20}$ or $\mathrm{P}(C \mid D) = \frac{7}{9}$	
	M1	for a correct conditional probability expression e.g. $\frac{\mathrm{P}(D \cap C')}{\mathrm{P}(C')}$ or $\frac{\mathrm{P}(D) - \mathrm{P}(C \cap D)}{1 - \mathrm{P}(C)}$ oe or a correct ratio of probabilities.	
	A1	Allow awrt 0.778	