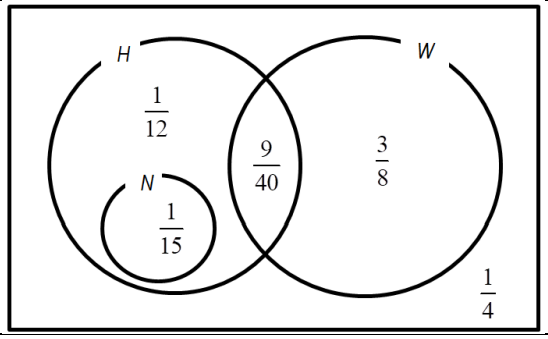
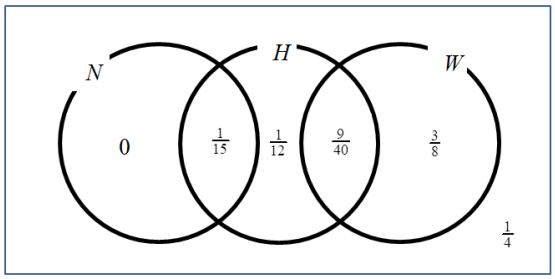
	A1	awrt 144	
Question Number	Scheme		Marks
4(a)	$P(H \cup W) = P(H) + P(W) - P(H \cap W)$	$P(H' \cap W) = P(H \cup W) - P(H)$	M1
	$P(H \cap W) = \frac{3}{8} \times P(W)$	$P(H' \cap W) = P(H') \times P(W)$	M1
	$\frac{3}{4} = \frac{3}{8} + P(W) - \frac{3}{8}P(W)$	$\frac{3}{8} = \frac{5}{8}P(W)$	A1
	$P(W) = \frac{3}{5}$*	$P(W) = \frac{3}{5}$*	A1cso*
			(4)
(b)	$P(N' \mid H) = \frac{\frac{3}{8} - \frac{1}{15}}{\frac{3}{8}}$ or $\frac{\frac{9}{40} + \frac{1}{12}}{\frac{3}{8}}$ or $1 - \frac{\frac{1}{15}}{\frac{3}{8}}$		M1
	$= \frac{37}{45}$ = awrt 0.822		A1
			(2)
(c)	 		B1 M1 M1 M1 A1 **(5)**
	Notes		**Total 11**
(a)	**M1**	for use of $P(H \cup W) = P(H) + P(W) - P(H \cap W)$ (with at least one value correctly substituted) or use of $P(H' \cap W) = P(H \cup W) - P(H)$ (with at least one value correctly substituted)	
	M1	for use of $P(H \cap W) = P(H) \times P(W)$ or use of $P(H' \cap W) = P(H') \times P(W)$	
	A1	a correct equation in P(W) (allow W or x here)	
	A1cso*	Correct solution ending with P(W)= $\frac{3}{5}$ with no wrong working seen. Dep. on all previous marks.	
	NB	A method which uses $\frac{3}{5}$ or $\frac{3}{5} \times \frac{3}{8}\left[= \frac{9}{40}\right]$ can score maximum M1M1A0A0.	
(b)	**M1**	For $\frac{p}{\frac{3}{8}}$ where $0 < p < \frac{3}{8}$ use of independence is M0 e.g. $\frac{x \times \frac{3}{8}}{\frac{3}{8}}$	
	A1	awrt 0.822	
(c)	**B1**	3 circles labelled. Either N inside H or allow as intersecting circles with $P(N \cap H') = 0$, but do not allow blank space to be considered 0. Condone missing box for this mark. Allow all 3 circles overlapping with all zeros correctly labelled.	
	M1	For $P(H \cap W) = \frac{3}{8} \times \frac{3}{5}\left[= \frac{9}{40}\right]$ seen or correctly placed in Venn diagram.	
	M1	For their $\frac{3}{5} - "\frac{9}{40}" = "\frac{3}{8}"$ (may be implied by the regions in their P(W) adding to 0.6)	
	M1	For their $\frac{3}{8} - "\frac{9}{40}" - \frac{1}{15} = "\frac{1}{12}"$	
	A1	Fully correct diagram with ¼ and box and correct probabilities (allow exact decimal equivalents)	