Question	Answer	Marks	AO	Guidance	
2	**DR** $x\sqrt{5}+32=x\sqrt{45}+2x$ $x\left(\sqrt{45}+2-\sqrt{5}\right)=32$	**M1***	**1.1**	Re-arranging and factorising out x	
	$\sqrt{45}=3\sqrt{5}$	**B1**	**1.1**	Replacing $\sqrt{45}=3\sqrt{5}$ (Or $\sqrt{45}\times\sqrt{5}=15$ if multiplying through by $\sqrt{5}$)	Could appear at any point
	$x=\left(\frac{32}{2\sqrt{5}+2}\right)\left(\frac{2\sqrt{5}-2}{2\sqrt{5}-2}\right)$	**M1dep***	**1.1a**	Correct method for rationalising the surd of the denominator with x taking the form $\frac{k_1}{k_2\sqrt{5}+k_3}$ o.e.	
	$x=\frac{32\left(2\sqrt{5}-2\right)}{20-4}=4\sqrt{5}-4$	**A1** **[4]**	**1.1**	cao where $a=4, b=-4$ Need to see some correct working	
	ALTERNATIVE SCHEME $\sqrt{45}=3\sqrt{5}$	**B1**		Replacing $\sqrt{45}=3\sqrt{5}$ (Or $\sqrt{45}\times\sqrt{5}=15$ if multiplying through by $\sqrt{5}$)	Could appear at any point
	$(32-2x)^2=(2\sqrt{5}x)^2\Rightarrow 16x^2+128x-1024(=0)$	**M1***		Rearranging and squaring leading to a 3TQ	
		M1dep*		Solve by completing the square or using quadratic formula	
	$x=4\sqrt{5}-4$ only	**A1** **[4]**			