Question	Working		Answer	Mark	Notes	
19	$x^2+(3-2x)^2=18$	$\left(\frac{3-y}{2}\right)^2+y^2=18$		5	M1	substitution of linear equation into quadratic
	$5x^2-12x-9[=0]$ oe	$5y^2-6y-63[=0]$ oe			M1	simplified to a correct 3 term quadratic
	$(5x+3)(x-3)\ [=0]$ $\frac{-(-12)\pm\sqrt{(-12)^2-4\times5\times(-9)}}{2\times5}$ $5[(x-\frac{12}{10})^2-\frac{144}{100}]-9=0$ oe	$(5y-21)(y+3)\ [=0]$ $\frac{-(-6)\pm\sqrt{(-6)^2-4\times5\times(-63)}}{2\times5}$ $5[(y-\frac{6}{10})^2-\frac{36}{100}]-63=0$ oe			M1ft	dep on M1 for solving *their* 3 term quadratic equation using any correct method (if factorising, allow brackets which expanded give 2 out of 3 terms correct) (if using formula allow one sign error and some simplification – allow as far as $\frac{12\pm\sqrt{144+180}}{10}$ or $\frac{6\pm\sqrt{36+1260}}{10}$)(if completing the square allow as far as shown)
			$x=-0.6$ **and** $x=3$ **OR** $y=4.2$ **and** $y=-3$		A1	oe dep on M2 for both x-values **OR** both y-values
	Working must be shown		$x=-0.6$, $y=4.2$ $x=3$, $y=-3$		A1	oe dep on M2 (must be clearly shown as correct pairs), accept answers given as coordinates
						Total 5 marks