Question		Working	Answer	Mark	Notes
16	(a)	$A = \frac{k}{r^2}$		3	M1 oe *k* can be any letter (must be a letter and not 1)
		$5 = \frac{k}{0.3^2}$ oe **or** *k* = 0.45 oe			M1 implies first M1 if you see this stage
		Working not required, so correct answer scores full marks (unless from obvious incorrect working)	$A = \frac{0.45}{r^2}$		A1 oe with *A* as the subject eg $A = \frac{9}{20r^2}$ (allow $A = \frac{k}{r^2}$ where *k* = 0.45 oe) (SC if M0 scored then award B2 for $A \propto \frac{0.45}{r^2}$ oe)
	(b)	[*A* =] $\frac{"0.45"}{(7.5A)^2}$ oe **or** $\frac{"0.45"}{56.25A^2}$ **or** $\frac{9}{20(7.5A)^2}$ oe		3	M1 ft from (a) dep on M2 in (a) ([*A* =]$\frac{"0.45"}{7.5A^2}$ is zero marks unless recovered later)
		$A^3 = \frac{"0.45"}{56.25}$ ($A^3 = \frac{1}{125}$ or 0.008 oe) or 125 A^3 = 1 oe			M1 ft their 0.45 dep on M2 in (a) Must include A^3
		Working not required, so correct answer scores full marks (unless from obvious incorrect working)	0.2		A1 oe
					Total 6 marks