

Question			Answer	Marks	AO	Guidance	
2	(a)	(i)	$y = \frac{a}{x^6} \quad z = b\sqrt[3]{y}$ Hence $z = k\sqrt[3]{\frac{1}{x^6}}$ Equation is $z = \frac{k}{x^2}$	M1	3.1a	Attempt at least one equation, involving a constant of proportionality	Allow BOD if the constants of proportionality are the same in two equations Allow $\propto$ to be used
			A1	2.1	Correct simplified equation seen	Equation must be simplified, so A0 for eg $z = k\sqrt[3]{\frac{1}{x^6}}$ Must involve just a single constant of proportionality ie k A0 if the same constant of proportionality was used in both initial equations, or if k was used in either of the initial equations	
				[2]			
	(a)	(ii)	Identify Fig. 1.1	B1	3.2a	Not dependent on correct equation in (i)	B0 if more than one Fig. identified
				[1]			
2	(b)		$3 = \frac{k}{16}$ $k = 48$	M1*	1.1	Use $x = 4$ and $z = 3$ to attempt to find k from their equation of proportionality	Their equation must involve x , z and k As far as attempting k
			$\frac{48}{x^2} = 12$ $x^2 = 4$	M1d*	1.1	Attempt to find x using $z = 12$ and their numerical k Dependent on previous M1	Their equation involving x , z and their k Attempt at least one value of x
			$x = \pm 2$	A1	1.1	Both values required	Must have had correct final equation in (a)(i), but could follow A0 if constants of proportionality were not dealt with correctly
				[3]			