

Q	Marking instructions	AO	Marks	Typical solution
12	States a and b are rational	2.1	B1	Let a and b be rational
	Forms the product of two rational numbers $\frac{m}{n} \times \frac{p}{q}$	3.1a	M1	$a = \frac{m}{n} \text{ and } b = \frac{p}{q}$ $c = ab = \frac{m}{n} \times \frac{p}{q} = \frac{mp}{nq}$
	Concludes the argument fully correctly by stating that c is rational and contradicts c is irrational and if c is irrational at least one of a or b is irrational. To be awarded R1, marks B1M1 must be scored with their $\frac{mp}{nq}$ seen	2.1	R1	Hence c is rational which contradicts that c is irrational. Therefore, if c is irrational at least one of a or b is irrational.
Question 12 Total			3	