Question number	Scheme	Marks
3 (a) (i)	$ar^2 = 5$ or $ar^4 = \frac{5}{2}$ or $5r^2 = \frac{5}{2}$	B1
	$\left(\frac{ar^4}{ar^2}\right) = \frac{\frac{5}{2}}{5}$ or $\frac{5}{r^2} = \frac{\frac{5}{2}}{r^4}$ oe $\rightarrow r$ or $r = \sqrt{\frac{\frac{5}{2}}{5}}$	M1
	$r = \frac{\sqrt{2}}{2}$ oe	A1
(ii)	$a = 10$	A1 [4]
(b)	$S_\infty = \frac{"10"}{1-"\frac{\sqrt{2}}{2}"}$	M1
	$20 + 10\sqrt{2}$	A1 [2]
		Total 6 marks

Part	Mark	Additional Guidance
(a)	Ignore labelling and mark parts (i) and (ii) together.	
(i)	B1	One correct equation as shown. This is an M mark in epen.
	M1	Attempts to solve simultaneously. Must be working with correct equations or with $ar^3 = 5$ and $ar^5 = \frac{5}{2}$ Minimum attempt to correctly divide their equations or rearrange for *a* and equate as shown or to correctly rearrange and eliminate *r*, must achieve a value for *r* or for *a*. OR attempts to solve $5r^2 = \frac{5}{2}$ to obtain r Allow errors in arithmetic but not mathematically incorrect process.
	A1	Value as shown. Allow this mark for correct answer from working with $ar^3 = 5$ and $ar^5 = \frac{5}{2}$
(ii)		Must reject negative if seen. isw attempt to convert to decimal.
	A1	Value as shown.
(b)	M1	Correctly substitutes their values for *a* and *r* into the formula provided $\lvert r \rvert < 1$
	A1	Correct value.