

Q1. (2023)

Q	Answer	Mark	Comments
21	Alternative method 1		
	$560 \div 500$ or 1.12	M1	oe
	$\sqrt[3]{\text{their } 1.12}$ or [1.038, 1.0385] or [3.8, 3.85]	M1dep	may be implied eg $\frac{r}{100} = [0.038, 0.0385]$
	3.9	A1	
	Alternative method 2		
	Trial of the form $500 \times x^3$ with $1 < x \leq 1.1$ and correct evaluation	M1	allow correct evaluation truncated or rounded to nearest integer or better allow working year by year value of x used must be seen
	Two trials of the form $500 \times x^3$ each with $1 < x \leq 1.1$ and correct evaluations, one with answer < 560 and one with answer > 560	M1dep	allow correct evaluations truncated or rounded to nearest integer or better allow working year by year values of x used must be seen
	3.9	A1	

Additional Guidance																													
Up to M2 may be awarded for correct work with no answer or incorrect answer, even if this is seen amongst multiple attempts																													
21 cont	<table><tr><td>1.01</td><td>515.1505</td></tr><tr><td>1.02</td><td>530.604</td></tr><tr><td>1.03</td><td>546.3635</td></tr><tr><td>1.038</td><td>559.193436</td></tr></table>	1.01	515.1505	1.02	530.604	1.03	546.3635	1.038	559.193436	<table><tr><td>1.0385</td><td>560.0019083</td></tr><tr><td>1.039</td><td>560.8111595</td></tr><tr><td>1.04</td><td>562.432</td></tr><tr><td>1.05</td><td>578.8125</td></tr><tr><td>1.06</td><td>595.508</td></tr><tr><td>1.07</td><td>612.5215</td></tr><tr><td>1.08</td><td>629.856</td></tr><tr><td>1.09</td><td>647.5145</td></tr><tr><td>1.1</td><td>665.5</td></tr></table>	1.0385	560.0019083	1.039	560.8111595	1.04	562.432	1.05	578.8125	1.06	595.508	1.07	612.5215	1.08	629.856	1.09	647.5145	1.1	665.5	
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eg of accepted values For 578.8125 allow 578, 579, 578.8, 578.81, 578.812, 578.813																													
Alt 2 example of working year by year (allow intermediate values to be truncated or rounded to the nearest penny, also allow if given to the next penny) $500 \times 1.035 = 517.5$ $517.5 \times 1.035 = 535.6125$ (allow 535.61 or 535.62) $535.61 \times 1.035 = 554.35635$																													
Incorrect trials and evaluations can be ignored																													
3.9 from incorrect working eg $560 - 500 = 60$ $\sqrt[3]{60} = 3.9$		M0M0A0																											
Wrong answer (eg 4) with no correct method seen		M0M0A0																											
Apply the scheme that favours the student eg 500×1.038^3 scores M1M1 using Alt 1																													
$\frac{560 - 500}{500}$ with no further correct work		M0M0																											