1	for 0.08 × 1200 oe (= 96) **or** 1.08 × 1200 oe (= 1296)	**OR** 1200 × 1.08^3		3	M1	for 0.08 × 1200 oe (= 96) **or** 1.08 × 1200 oe (= 1296)	**OR** M2 for 1200 × 1.08^3 **or** 1200 × 1.08^4 (= 1632.59) (M1 for 1200 × 1.08^2 (= 1399.68))
	1.08 × "1296" (= 1399.68) oe 1.08 × "1399.68" (= 1511.6544) oe				M1	for completing method to find total amount in the account	
			1512		A1	accept 1511 – 1512	
						SC: if no other marks gained award M1 for 0.24 × 1200 oe **or** 288 **or** 1488 accept (1 + 0.08) as equivalent to 1.08 throughout	
							Total 3 marks

2	$8000\times\left(\frac{100+x}{100}\right)^6=8877.62$ oe **or** $8000\times\left(1+\frac{x}{100}\right)^6=8877.62$ oe **or** $8000\times(1+x\%)^6=8877.62$ **or** $8000\times y^6=8877.62$ oe		3	M1	
	$\left(\frac{8877.62}{8000}\right)^{\frac{1}{6}}$ (=1.0175…) or $(1.1097...)^{\frac{1}{6}}$ (=1.0175…)			M1	
		1.75		A1	
					Total 3 marks

3	a	1.04 × 3 130 000 oe				M2	complete method to increase salary by 4% M1 for 0.04 × 3 130 000 oe (= 125 200)	
				3 255 200	3	A1		
	b	for 0.15 × 750 000 oe (=112 500) **or** 0.85 × 750 000 oe (=637 500)	**OR** 750 000 × 0.85^3			M1	For method to find depreciation for 1 year or value after 1 year	**or** M2 for 750 000 × 0.85^3 (= 460 593.75) **or** 750 000 × 0.85^4 (= 391 504.69) (M1 for 750 000 × 0.85^2 (= 541 875)
		0.85 × "637 500" oe (= 541 875) 0.85 × "541 875" oe(= 460 593.75)				M1	for completing method	
				460 594	3	A1	accept 460 593 – 460 594	
							SC: if no other marks gained award M1 for 0.55 × 750 000 oe **(=** 412 500) **or** 0.45 × 750 000 oe **(=** 337 500) accept (1 – 0.15) as equivalent to 0.85 throughout	
								Total 6 marks

4	20 000 × 0.81^3 oe			M2	M1 for 20 000 × 0.81 oe (= 16 200) or 20 000 × 1.19 oe (= 23 800) or 20 000 × 1.19^3 oe (= 33 703.18)
		10 629		A1	Accept 10 628 → 10 629
					Total 3 marks

5	6000 × 1.015^2 (= 6181.35) **or** 6000 + (0.015 × 6000) + (0.015 × (6000 + '90')) (= 6181.35) **or** $(1.015)^2$ (= 1.030225) **or** $\frac{6311.16}{6000}$ (=1.05186)		3	M1 for working out the total amount after **two** years **or** working out the compound interest multiplier after two years **or** working out the compound interest multiplier after three years
	6311.16 ÷ '6181.35' (= 1.021) (×100) **or** $\frac{6311.16-'6181.35'}{'6181.35'}$ (= 1.021) (×100) **or** '1.05186' ÷ '1.030225' (= 1.021) (×100)			M1 (dep on M1) for a complete method to find the compound interest multiplier (×100)
		2.1		A1 awrt 2.1
				Total 3 marks

6 (b)	for 0.018 × 120 000 oe **or** 2160 **or** 1.018 × 120 000 oe **or** 122 160		3	M1	For finding 1.8% or 101.8% of the value	**OR** M2 for 120 000 × 1.018^3 **or** 120 000 × 1.018^4 **or** 128 876.09
	1.018 × "122 160" (= 124 358.88) oe **and** 1.018 × "124 358.88" (= 126 597.34) oe			M1	for completing the method	(M1 for 120 000 × 1.018^2 **or** 124 358.88)
	Working not required, so correct answer scores full marks (unless from obvious incorrect working) *NB: this question is one where students could misread the number of zeros in 120 000 (eg one too many or one too few) in the question, up to M2 could be awarded if a correct method is seen with this misread*	127 000		A1	or 126 597 – 126 600 (if a correct answer is seen in working and then rounded incorrectly, award full marks) **SC:** if no other marks gained award M1 for 1.054 × 120 000 oe **or** 126 480 **or** 6 480 (accept (1 + 0.018) as equivalent to 1.018 throughout)	

7	0.024 × 50 000 (= 1200) oe or 1.024 × 50 000 (= 51 200) oe or 1.024^2 × 50 000 (= 52 428.8) oe or 0.024 × 50 000 × 3 (= 3600) oe 0.024 × 50 000 × 3 + 50 000 (= 53 600) oe		3	M1		M2 for 50 000 × 1.024^3
	0.024 × (50 000 + '1200') (= 1228.8) oe **and** 0.024 × (50 000 + '1200' + '1228.8') (= 1258.2912) **or** '1200' + '1228.8' + '1258.2912' (= 3687.(0912)) **or** 1.024 × '52 428.8'			M1	for completing method to find total amount in the account	
		53 687		A1	accept 53 687 – 53 688	
					accept (1 + 0.024) or $\left(1+\frac{2.4}{100}\right)$ as equivalent to 1.024 throughout	
						Total 3 marks

8 (a)	for 0.035 × 40 000 oe (= 1400) **or** 1.035 × 40 000 oe (= 41 400)	**OR** 40 000 × 1.035^3		3	M1	for finding 3.5% **or** 103.5% of 40 000	**OR** M2 for 40 000 × 1.035^3 **or** 40 000 × 1.035^4 (= 45 900.92) (M1 for 40 000 × 1.035^2 (= 42 849))
	1.035 × "41 400" oe (= 42 849) 1.035 × "42 849" oe (= 44 348.72)				M1	for completing method to find total amount in the account	
			44 349		A1	accept 44 348 – 44 349	
						SC: if no other marks gained award M1 for 0.105 × 40 000 oe **or** 4200 **or** 44 200 accept (1 + 0.035) as equivalent to 1.035 throughout	

9	18 000×0.15 (= 2700) oe **or** 18 000×0.85 (= 15 300) oe		3	M1	for finding 15% or 85% of 18 000	M2 for 18 000×0.85^4 oe **or** 18 000×0.85^5 (= 7986.(69…)) oe
	eg 18 000×0.85^4 oe **or** "15 300"×0.85×0.85×0.85 oe **or** "15 300"×0.85(=13005) oe **and** "13005"×0.85(=11054.25) oe **and** "11054.25"×0.85 oe			M1	(dep) for a complete method	
		9396		A1	awrt 9396	
					If no marks awarded, award SCB1 for **or** 18 000 × 0.85^2 (= 13 005) oe **or** 18 000×0.85^3 (= 11 054.(25)) oe **or** 18 000 × 0.4 (= 7200) oe **or** 18 000 × 1.15 (= 20700) oe **or** 18 000 × 1.15^4 (= 31482.(1125)) oe	
						Total 3 marks

10 (a)	1 + 0.04 (= 1.04) **or** 100(%) + 4(%) (= 104(%)) **or** $\frac{634\,400}{104}$ (= 6100) oe		3	M1	
	634 400 ÷ "1.04" **or** 634 400 ÷ "104" × 100 **or** 634 400 × 100 ÷ "104" oe			M1	
		No and 610 000		A1 dep on M2 for no and 610 000 seen oe E.g. Still (band) B and 610 000 oe	
(b)	"0.85" × "0.85" (= 0.7225) oe **or** "0.85" – ("0.85" × 0.15) (= 0.7225) **or** $\frac{"85"\times"85"}{100}$ (= 72.25) oe or [0.85 and 85 must come from correct working]		3	M1 allow use of their amount e.g. 200 × "0.85" × "0.85" (= 144.5)	M2 for 15 + (0.15 × "85") or 15 + 12.75
	1 – "0.7225" **or** 0.2775 **or** 100 – "72.25"			M1 e.g. $\frac{200-"144.5"}{200}$ (×100)	
		27.75		A1 oe allow 27.8 or 28	
					Total 6 marks

11	50 000 × 1.013 (=50 650) oe Or 50 000 × 0.013 (= 650) oe (NB: accept $\left(1+\frac{1.3}{100}\right)$ for 1.013 but not (1 + 1.3%))		3	M1	For finding 101.3% or 1.3% of 50 000	M2 for 50000×1.013^4 **or** 50000×1.013^5
	"50 650" × 1.013 (=51 308.45) "51 308.45"× 1.013 (=51 975.45...) "51 975.45..."× 1.013			M1	dep for a complete method	
		52 651		A1	awrt 52 651 if no marks awarded then SCB1 for $50\,000 \times 0.013^n$ $50\,000 \times 0.987^4$ (= 47450.....) 50 000 × 0.052 (= 2600) 50 000 × 1.052 ((= 52600) 50000×1.013^2 (= 51308.45) 50000×1.013^3 (= 51975.45…)	
						Total 3 marks

12	7200 × 0.025 (= 180) or 7200 × 1.025 (= 7380) oe or 7200 × 1.075 (= 7740) oe or 7200 × 0.075 (= 540) oe		3	M1	M2 for $7200 \times (1.025)^3$
	(7200 + '180') × 0.025 (= 184.5) and (7200 + '180' + '184.5') × 0.025 (= 189.1125) and 7200 + '180' + '184.5' + '189.1…' (= 7753.6125)			M1 NB year end values are 7380 and 7564.5(0) 7753.6125	
		7754		A1 answer in range 7753 – 7754	
					Total 3 marks

13	eg 200 000 × 0.018 (= 3600) **or** 200 000 × 1.018 (= 203 600)		3	M1	for method to find 1.8% or 101.8% of 200 000
	eg $\sqrt{209\ 754 \div "203\ 600"}$ (= 1.015000…)			M1	for a complete method to find the multiplier for the compound interest for 2nd and 3rd year
		1.5		A1	or better eg 1.500045971…
					Total 3 marks

14 (a)	for 0.04×2000 oe (= 80) **or** 1.04×2000 oe (= 2080)	**OR**		3	M1	for finding 4% **or** 104% of 2000	**OR** M2 for 2000×1.04^3 oe **or** 2000×1.04^4 oe (= 2339.72)
	$1.04 \times$ "2080" oe (= 2163.2) $1.04 \times$ "2163.2" oe	2000×1.04^3 oe			M1	for completing method to find total amount in the account at the end of 3 years	
	Correct answer scores full marks (unless from obvious incorrect working)		2250		A1	accept 2249 – 2250	
						SC: if no other marks gained award M1 for 0.12×2000 oe **or** 240 **or** 1.12×2000 oe **or** 2240 accept (1 + 0.04) as equivalent to 1.04 throughout	
(b)	eg $1365 \div (1 - 0.09)$ **or** $1365 \div 0.91$			3	M2	for a complete method	
					(M1)	for $1365 \div (100 - 9)$ (= 15) **or** $(100 - 9)\% = 1365$ **or** $91\% = 1365$ **or** eg $(1 - 0.09)T = 1365$ **or** eg $T - 0.09T = 1365$	
	Correct answer scores full marks (unless from obvious incorrect working)		1500		A1		
						Total 6 marks	

15	$\frac{2.9}{100} \times 5000 (=145)$ oe **or** 1.029×5000 (=5145) oe **or** $1.029^2 \times 5000$ (= 5294….) oe **or** 0.058×5000 (= 290) oe **or** 1.058×5000 (= 5290)				M1	**Bank H**	
	5000×0.016 oe (= 80) oe **or** 5000×1.016 oe (= 5080) oe **or** 5000×0.032 (= 160) oe **or** 5000×1.032 (= 5160) oe	M2 for 5000×1.016^2 (= 5161.28)		4	M1	**Bank G**	
	$(80 + 5000) \times 0.016$ (= 81.28) oe **or** 5080×1.016 (= 5161.28) oe				M1	**Bank G**	
	Correct answer scores full marks (unless from obvious incorrect working)		16.28		A1		

16	$0.12 \times 700\,000$ oe (= 84 000) **or** $0.88 \times 700\,000$ oe (= 616 000) **or** $700\,000 \times 0.88^2$ oe (= 542 080)		3	M1	for finding 12% **or** 88% of 700 000	M2 for $700\,000 \times 0.88^3$ **or** $700\,000 \times 0.88^4$ (= 419 786.75)	
	$0.88 \times$ "616 000" oe (= 542 080) **and** $0.88 \times$ "542 080" oe (= 477 030.4)			M1	for completing method to find the value of the car		
	Correct answer scores full marks (unless from obvious incorrect working)	477 030		A1	accept 477 030 – 477 031		
					SC: if no other marks gained award M1 for $0.36 \times 700\,000$ oe **or** 252 000 **or** $0.64 \times 700\,000$ oe **or** 448 000 accept (1 − 0.12) as equivalent to 0.88 throughout		
					Total 3 marks		

17	$80\,000\times\left(\frac{100+x}{100}\right)^3=80\,000+6151.25$ oe **or** $80\,000\times\left(1+\frac{x}{100}\right)^3=80\,000+6151.25$ oe **or** $80\,000\times(1+x\%)^3=80\,000+6151.25$ oe **or** $80\,000\times y^3=80\,000+6151.25$ oe **or** $\frac{80\,000+6151.25}{80\,000}$ (= 1.076…) oe **or** $\frac{86\,151.25}{80\,000}$ (= 1.076…) oe		5	M1
	$\sqrt[3]{\frac{80\,000+6151.25}{80\,000}}$ (= 1.025) oe **or** $\sqrt[3]{\text{"1.076..."}}$ (= 1.025) **or** $\left(1+\frac{x}{100}=\right)\frac{41}{40}(=1.025)$			M1
	Correct answer scores full marks (unless from obvious incorrect working)	2.5		A1 Accept answers in the range 2.4 – 2.6 from correct working NB Do not allow an answer in the range 2.4 – 2.6 if it comes from awrt 7.6% oe or 7.7% oe divided by 3 Do not accept an answer if it is in the range that comes from a simple interest method
				Total 3 marks

18	for 0.04 × 680 oe **(= 27.2)** **or** 1.04 × 680 oe **(= 707.2)**		3	M1	For finding 4% or 104% of the value	**or** M2 for 680×1.04^3 **or** 680×1.04^4 **or** 795.50…..
	1.04 × "707.2" (= 735.488) oe **and** 1.04 × "735.488" (= 764.90752) oe or 0.04 ×(680 + "27.2") = 0.04 ×"707.2" = 28.288 0.04 ×"(707.2 +28.288)"= 0.04 ×"735.488" = 29.41952 "735.488" + "29.41952" = 764.90752….			M1	for completing the method	
	Correct answer scores full marks (unless from obvious incorrect working)	765		A1	or 764 – 765 (if a correct answer is seen in working and then rounded incorrectly, award full marks) **SC:** if no other marks gained award M1 for 1.12 × 680 oe **or** 761.6(0) (or 762) **or** 0.12 × 680 oe or 81.6 (or 82) **or** $0.96^3\times680$ oe or 601.62… (or 602) (accept (1 + 0.04) as equivalent to 1.04 throughout but not (1 + 4%))	
						Total 3 marks