LO – Understand Compound Interest and Growth & Decay	LO – Understand Compound Interest	LO – Understand Compound Interest and Growth & Decay	LO – Understand Compound Interest
(1) A basic family new car	(1) A basic family new car	(1) A basic family new car	(1) A basic family new car
costs £20000 to buy By	costs £20000 to buy By	costs £20000 to buy By	costs £20000 to buy By
working out 10% coop time	working out 10% cach time	working out 10% cach time	working out 10% and time
find the value of a part if it	find the value of a part if it	find the value of a part if it	find the value of a part if it
lind the value of a car li it	lind the value of a car li it	The the value of a car if it	lind the value of a Carlint
depreciates at 10% p/a for 3	depreciates at 10% p/a for 3	depreciates at 10% p/a for 3	depreciates at 10% p/a for 3
years.	years.	years.	years.
(2) State a reason(s) why	(2) State a reason(s) why	(2) State a reason(s) why	(2) State a reason(s) why
using the method above is not	using the method above is not	using the method above is not	using the method above is not
suitable to find the cost (i) after	suitable to find the cost (i) after	suitable to find the cost (i) after	suitable to find the cost (i) after
12 years (ii) after 100 years	12 years (ii) after 100 years	12 years (ii) after 100 years	12 years (ii) after 100 years
(3) Using a more refined	(3) Using a more refined	(3) Using a more refined	(3) Using a more refined
model, calculate the projected	model, calculate the projected	model, calculate the projected	model, calculate the projected
value of the car after 7 years	value of the car after 7 years	value of the car after 7 years	value of the car after 7 years
(4) Jim saves with Floyds	(4) Jim saves with Floyds	(4) Jim saves with Floyds	(4) Jim saves with Floyds
Bank, They offer 8%	Bank, They offer 8%	Bank, They offer 8%	Bank, They offer 8%
compound interest on his	compound interest on his	compound interest on his	compound interest on his
account If he deposits £3000	account. If he deposits £3000	account of the deposits $£3000$	account If he deposits £3000
when he opens the account	when he opens the account	when he opens the account	when he opens the account
how much (a) will be have after	how much (a) will be have after	how much (a) will be have after	how much (a) will be have after
1 year and (b) after 10 years	1 year and (b) after 10 years	1 year and (b) after 10 years	1 year and (b) after 10 years
Extension – Draw an accurate	Extension – Draw an accurate	Extension – Draw an accurate	Extension – Draw an accurate
araph to show the amount of	graph to show the amount of	graph to show the amount of	araph to show the amount of
money in his account over time	money in his account over time	money in his account over time	money in his account over time
*(5) Which would be worth	*(5) Which would be worth	*(5) Which would be worth	*(5) Which would be worth
more after 6 years? (i) A ring	more after 6 years? (i) A ring	more after 6 years? (i) A ring	more after 6 years? (i) A ring
that appreciates at 5% p/a with	that appreciates at 5% p/a with	that appreciates at 5% p/a with	that appreciates at 5% p/a with
a starting value of £2000 or (b)	a starting value of £2000 or (b)	a starting value of £2000 or (b)	a starting value of £2000 or (b)
a bracelet that depreciates at	a bracelet that depreciates at	a bracelet that depreciates at	a bracelet that depreciates at
12% p/2 with 2 starting value	12% p/a with a starting value	12% p/a with a starting value	12% p/2 with 2 starting value
of £2000	of £2000	of £2000	of \$2000
(C) A motorbiko denrecistos et	(C) A motorbike depresistes at	(C) A meterbike depresistes at	(C) A motorbile depresistes at
(6) A motorbike depreciates at	(b) A motorbike depreciates at	(6) A motorbike depreciates at	(6) A motorbike depreciates at
a rate of 8% per quarter. How	a rate of 8% per quarter. How	a rate of 8% per quarter. How	a rate of 8% per quarter. How
much would it be worth after 3	much would it be worth after 3	much would it be worth after 3	much would it be worth after 3
years if the starting value was	years if the starting value was	years if the starting value was	years if the starting value was
£8000	£8000	£8000	£8000
*(7)Fred has a budget of	*(7)Fred has a budget of	*(7)Fred has a budget of	*(7)Fred has a budget of
£40000. The car he wants is	£40000. The car he wants is	£40000. The car he wants is	£40000. The car he wants is
£50000 new. He knows the car	£50000 new. He knows the car	£50000 new. He knows the car	£50000 new. He knows the car
depreciates at 18% p/a. Fred	depreciates at 18% p/a. Fred	depreciates at 18% p/a. Fred	depreciates at 18% p/a. Fred
Starts looking for a car in the	Starts looking for a car in the	Starts looking for a car in the	Starts looking for a car in the
year 1991. (a) In which year	year 1991. (a) In which year	year 1991. (a) In which year	year 1991. (a) In which year
was the first car that Fred can	was the first car that Fred can	was the first car that Fred can	was the first car that Fred can
afford made?	afford made?	afford made?	afford made?
(b) Express this as an	(b) Express this as an	(b) Express this as an	(b) Express this as an
inequality	inequality	inequality	inequality

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