



Free-Standing Mathematics Qualification

Calculating Finances 6984/2

Intermediate Level

Mark Scheme

2008 examination - January series

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Key to mark scheme and abbreviations used in marking

M	mark is for method		
m or dM	mark is dependent on one or more M marks and is for method		
A	mark is dependent on M or m marks and is for accuracy		
B	mark is independent of M or m marks and is for method and accuracy		
E	mark is for explanation		
\surd or ft or F	follow through from previous		
	incorrect result	MC	mis-copy
CAO	correct answer only	MR	mis-read
CSO	correct solution only	RA	required accuracy
AWFW	anything which falls within	FW	further work
AWRT	anything which rounds to	ISW	ignore subsequent work
ACF	any correct form	FIW	from incorrect work
AG	answer given	BOD	given benefit of doubt
SC	special case	WR	work replaced by candidate
OE	OE	FB	formulae book
A2,1	2 or 1 (or 0) accuracy marks	NOS	not on scheme
-x EE	deduct x marks for each error	G	graph
NMS	no method shown	c	candidate
PI	possibly implied	sf	significant figure(s)
SCA	substantially correct approach	dp	decimal place(s)

Application of Mark Scheme

No method shown:

Correct answer without working

mark as in scheme

Incorrect answer without working

zero marks unless specified otherwise

More than one method / choice of solution:

2 or more complete attempts, neither/none crossed out

mark both/all fully and award the mean mark rounded down

1 complete and 1 partial attempt, neither crossed out

award credit for the complete solution only

Crossed out work

do not mark unless it has not been replaced

Alternative solution using a correct or partially correct method

award method and accuracy marks as appropriate

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Answers and Marking Scheme - January 2008

Question 1

(a)(i)	£121.24	B1	
(a)(ii)	Total repayments = £121.24 × 60 £7274.40 Interest is £7274.40 – £6000 = £1274.40	B1 M1 A1	ISW
(b)	Monthly repayment is £123.05 Total repayment is £123.05 × 60 = £7383 Interest is £1383	B1 M1 A1	OR extra interest is £1.81 × 60 M1 = £108.60 B1 ISW
(c)(i)	Fidelity Finance do not require any repayment for the first three months	E1	Higher interest charges are made because of the longer loan period
(c)(ii)	Extra interest = £1383 – £1274.40 = £108.60	M1 A1	OR (£123.05 – 121.24) × 60 M1(b)–(a)
	TOTAL	10	

Question 2

	A	B	C	D	E
1	Item	Price in 1973	Price in 2006	Increase in price	Increase as a percentage of the price in 1973
2	Butter (500 grams)	15p	85p	70p	467
3	Cheddar Cheese (1 kg)	14p	£2.99	£2.85	2036
4	Milk (1 pint)	6p	35p	29p	483
5	Potatoes (2kg)	4p	44p	40p	1000
6	House (average price in the UK)	£9941	£157 250	£147 309	1482
7	Rent (average monthly rent)	£25	£500	£475	1900

(a)	Column D Any percentages All of column E Percentages to nearest integer	B1 M1A1 A1 B1	At least 3 correct SC2 Percentages of price in 2006; all correct Dependent on M1
(b)	$\frac{D3}{B3} \times 100$	B2	B1 for $\frac{D3}{B3}$
(c)	Increase is £20 539 Percentage increase is $\frac{20539}{1872} \times 100$ = 1097%	B1 B1	91.6% B2 (of 2006 – if penalised in (a))
(d)	Items which have become more affordable are butter, milk, potatoes	B2	B1 for 2 correct and no extra
	TOTAL	11	

Question 3

	5 parts Barry has $\frac{3}{5} \times 25$ = 15kg	B1 M1 A1	SC2 for 10 kg or 10 and 15
	TOTAL	3	

Question 4

(a)	Interest is $\frac{1.4}{100} \times \pounds 308.72$ = $\pounds 4.32$	M1 A1	Condone (eg adding $\pounds 30$) further work
(b)	Total cost is $\pounds 4.32 + \pounds 30 + \pounds 308.72$ = $\pounds 343.04$	M1 A1	Three terms, 2 correct Condone $\pounds 34.32$ B2 ft if (a) within 5p
	TOTAL	4	

Question 5

(a)	Annual income is $12 \times \pounds 4121$ = $\pounds 49\,452$ Taxable income = $\pounds 49\,452 - 5225$ = $\pounds 44\,227$	B1 M1 A1	Deduct A1 if answers given in incorrect part
(b)	Tax paid is $10p \times 2230$ + $22p \times 32\,370$ + $40p \times 9627$ = $\pounds 223 + 7121.40 + 3850.80$ = $\pounds 11\,195.20$	B1 M1 B1 A1 A1	B1 for $\pounds 223$ B1 for 9627 A1 for 7121.40
	TOTAL	8	

Question 6

	VAT is $\frac{17.5}{100} \times \pounds 649$ = $\pounds 113.58$ Total cost is $\pounds 649 + \pounds 113.58$ = $\pounds 762.58$	M1 A1	Accept 113.57 Accept 762.57 Accept $\frac{117.5}{100} \times \pounds 649$ M1 = $\pounds 762.58$ A1
	TOTAL	2	

Question 7

	1999 – 2000	B2	B1 for 1996, 1999 or 2000
	TOTAL	2	

Question 8

£340 million ~ 127.7%	B1	
Sales in 2003 were $340 \times \frac{100}{127.7}$ thousand	M1	
= £266 thousand	A1	Accept 266.249, 266.2 or 266.25 thousand
TOTAL	3	

Question 9

Rate is $\sqrt[4]{\frac{2681}{2100}} - 1$	M1	
= 1.062966 - 1	A1	
Rate is 6.30%	A1	Accept 6.2966..
TOTAL	3	

Question 10

Sale price is $0.7 \times$ original price		
Green cross sale is $0.2 \times$ original sale price	M1	If initial price is (eg) £100, reduction in price in sale is £30
= 0.14 of original price	A1	Price in sale is £100 - £30 = £70 M1
Price in green cross sale is $0.7 - 0.14$ of original price		Reduction on green cross is £14 M1
= 0.56 of original price	M1	Price in sale is £56 A1
\therefore Price is 56% of original	A1	
		OR Green cross price = 80% of sale price = 80% of 70% of original price M1 = 0.8×0.7 of original price M1 = 0.56 of original price A1 ie 56% of original A1
TOTAL	4	
TOTAL MARK FOR PAPER	50	