



ASSESSMENT and  
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## **Free-Standing Mathematics Qualification**

### ***Calculating Finances* 6984/2**

**Intermediate Level**

## **Mark Scheme**

*2008 examination – June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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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		
✓ 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	or equivalent	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)

### No Method Shown

Where the question specifically requires a particular method to be used, we must usually see evidence of use of this method for any marks to be awarded. However, there are situations in some units where part marks would be appropriate, particularly when similar techniques are involved. Your Principal Examiner will alert you to these and details will be provided on the mark scheme.

Where the answer can be reasonably obtained without showing working and it is very unlikely that the correct answer can be obtained by using an incorrect method, we must award **full marks**. However, the obvious penalty to candidates showing no working is that incorrect answers, however close, earn **no marks**.

Where a question asks the candidate to state or write down a result, no method need be shown for full marks.

Where the permitted calculator has functions which reasonably allow the solution of the question directly, the correct answer without working earns **full marks**, unless it is given to less than the degree of accuracy accepted in the mark scheme, when it gains **no marks**.

**Otherwise we require evidence of a correct method for any marks to be awarded.**

**Free Standing Mathematics Qualification**  
**Calculating Finances (6984/2)**  
**Answers and Marking Scheme – June 2008**

**Question 1**

<b>(a)</b>	£120.08	<b>B1</b>	
<b>(b)</b>	Total repayment is $48 \times \text{£}120.08$ $= \text{£}5763.84$ Interest = $\text{£}5763.84 - 5000$ $= \text{£}763.84$	<b>B1</b> <b>M1</b> <b>A1</b>	ft from (a)
<b>(c)</b>	Percentage = $\frac{763.84}{5000} \times 100$ $= 15.2768$ $= 15.3\%$	<b>M1</b>  <b>A1</b>	Accept 15.28, 15.27, 15.277...
	<b>TOTAL</b>	<b>6</b>	

**Question 2**

	Tax etc is $\frac{1333}{3672} \times 360$ $= 131^\circ$ Other angles are $68^\circ, 57^\circ, 26^\circ, 78^\circ$ Draw pie chart Label pie chart	<b>M1A1</b>  <b>A1</b> <b>B1</b> <b>B1</b>	For any   dep M1 above dep M1 above
	<b>TOTAL</b>	<b>5</b>	

**Question 3**

	Total cost is £66 Fraction is $\frac{30}{66}$ $= \frac{5}{11}$	<b>B1</b> <b>M1</b> <b>A1</b>	SC 2 for $\frac{6}{11}$
	<b>TOTAL</b>	<b>3</b>	

**Question 4**

5 parts Wendy pays $\frac{3}{5} \times 120$ = £72	<b>B1</b> <b>M1</b> <b>A1</b>	SC2 £48 or £48 and £72
<b>TOTAL</b>	<b>3</b>	

**Question 5**

$\frac{24.2}{100} \times £261$ = £63.16	M1 A1	Implied by £63.162...
<b>TOTAL</b>	<b>2</b>	

**Question 6**

	A	B	C	D	E
1	Local Authority	Income from parking (£000s)	Cost of contractors (£000s)	Profit (£000s)	Profit as a percentage
2	London: Camden	42 929	21 722	21 207	49
3	London: Ealing	15 111	14 225	886	6
4	London: Westminster	131 325	87 780	43 545	33
5	Birmingham	17 725	11 011	6 714	38
6	Cambridge	10 551	7 125	3 426	32
7	Leeds	8 185	3 002	5 183	63

<b>(a)</b>	Column D Any one correct in column E All correct in column E Nearest integer in column E	<b>B1</b> <b>M1A1</b> <b>A1</b> <b>B1</b>	Condone one error  Accept (e.g.) 34 for 33 losing B1 mark dep on M1
<b>(b)</b>	$\frac{D4}{B4} \times 100$	<b>B1</b>	Or $\frac{B4 - C4}{B4} \times 100$
	<b>TOTAL</b>	<b>6</b>	

**Question 7**

<b>(a)</b>	1994 – 1995  Steepest part of graph	<b>B2</b>  <b>E1</b>	B1 for 2001 – 2002 B1 for 1994 or 1995
<b>(b)</b>	2004  7.7 million	<b>B1</b>  <b>B1</b>	Accept 7.6 – 7.9
	<b>TOTAL</b>	<b>5</b>	

**Question 8**

<b>(a)</b>	Annual income is $£4730 \times 12$ = £56 760 Taxable income is $£56 760 - 5225$ = £51 535	<b>B1</b>  <b>M1</b>  <b>A1</b>	
<b>(b)</b>	Tax at 10% is £223 Tax at 22% is $£32 370 \times \frac{22}{100}$ = £7121.40 To be taxed at 40% is $£51 535 - 34 600$ = £16 935 Tax at 40% is £6774 Total tax is £14 118.40	<b>B1</b>  <b>M1</b>  <b>A1</b>    <b>B1</b>    <b>A1</b>	
	<b>TOTAL</b>	<b>8</b>	

**Question 9**

<b>(a)</b>	<p>Total number is <math>1000 \times 2000</math></p> <p style="text-align: center;"><math>= 2\,000\,000</math></p>	<p><b>B1</b></p> <p><b>B1</b></p> <p><b>B1</b></p>	<p>Either Both, and multiplication</p> <p>fit at least one B1 above Accept <math>1100 \times 1900 = 2\,090\,000</math></p>
<b>(b)</b>	<p>Number = <math>\frac{2000000}{800}</math></p> <p style="text-align: center;"><math>= 2500</math></p>	<p><b>M1</b></p> <p><b>A1</b></p>	<p>Dep on B1 above</p> <p>using 799.99 ~ 1000 M1 only</p>
	<b>TOTAL</b>	<b>5</b>	

**Question 10**

	<p>Normal selling price is 160% of cost price In sale price is 120% of cost price Reduction is 40% of cost price which is <math>\frac{40}{160}</math> of normal selling price <math>= \frac{1}{4}</math> of normal selling price <math>\therefore</math> Reduction is 25%</p>	<p><b>B1</b></p> <p><b>M1</b></p> <p><b>A1</b></p> <p><b>A1</b></p>	<p><b>Or</b></p> <p>Sale price is 120% of cost price</p> <p>Sale price is <math>\frac{120}{160}</math> of normal selling price M1 <math>= \frac{3}{4}</math> of normal selling price A1</p> <p>Hence reduction is <math>\frac{1}{4}</math> of normal selling price B1 <math>\therefore</math> Reduction is 25% A1</p>
	<b>TOTAL</b>	<b>4</b>	

**Question 11**

	$\text{Amount} = 4000 (1.036)^5$  $= \text{£}4773.74$	<b>M1</b> <b>M1</b>  <b>A1</b>	for 1.036 for rest of formula or for $4000 \times$ $1.193435018\dots$ SC2 4773.73 SC1 $4000 (1+0.036)^5$
	<b>TOTAL</b>	<b>3</b>	
	<b>TOTAL MARK FOR PAPER</b>	<b>50</b>	