



Finance Problems

Mark Scheme 1

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Finance Problems
Booklet	Mark Scheme 1

Time Allowed: 58 minutes

Score: /48

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1	(a)	$\frac{8}{8+15+9} \times 640$ oe	1	With no errors seen
	(b)	300 and 180	2	B1 for each or SC1 for answers reversed
	(c)	10 nfw	2	M1 for $160 \div 15.25$ implied by 10.5 or 10.49... nfw
	(d)	$\frac{7}{24}$	3	M1 for $\frac{3}{8} + \frac{1}{3}$ oe M1dep on previous M1 for $1 - \text{their} \left(\frac{3}{8} + \frac{1}{3}\right)$ oe

2	(a)	6250	3	M2 for $\frac{6000}{100-4} \times 100$ oe or M1 for 6000 associated with 96 [%]
	(b)	4441	3	B2 for 4441.1 to 4441.2 or 4440 or M1 for $\frac{6000}{1.351}$

	(c)	1.58 or 1.581...	5	M1 for $6000 \times \left(1 + \frac{1.5}{100}\right)^8$ oe A1 for 6758.95..... or 6758.96 to 3 sf or better or 758.95 or 758.96 rounded or truncated to 3 sf and M2 for $\{\text{their}(6000 \times 1.015^8) - 6000\} \times \frac{100}{6000 \times 8}$ oe or M1 for $\frac{6000 \times r \times 8}{100}$ oe
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3	1597 cao	4	<p>B3 for 1597.39.. or 1597.3[9...] or 1597.4 or 6597 or B2 for 6597.3[9...] or 6597.4 or B1 for $5000\left(1 + \frac{2}{100}\right)^{14}$</p> <p>If B1 scored or B0 scored and an attempt at compound interest is shown SC1 for <i>their</i> 6597[.] - 5000 evaluated correctly provided answer positive and SC1 for <i>their</i> final answer rounded correctly to nearest \$ from their more accurate answer</p>
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4	20.6 or 20.58 to 20.59	3	<p>M2 for $\frac{85 - 67.5}{85} \times 100$ or $\left(1 - \frac{67.5}{85}\right) \times 100$ or M1 for $\frac{85 - 67.5}{85}$ or $\frac{67.5}{85} \times 100$ If zero scored SC1 for $\frac{67.5 - 85}{85} \times 100$</p>
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5	(a) (i)	331 or 331.1 to 331.2	2	M1 for $\pi \times 6.2 \times 10.8 + \pi \times 6.2^2$
	(ii)	$\frac{A - \pi r^2}{\pi r}$ oe final answer	2	M1 for correct re-arrangement isolating term in l M1 for correct division by πr
	(b) (i)	4.39 or 4.390...	3	M2 for $18 \div \left(\frac{10}{4} + \frac{8}{5}\right)$ or M1 for $\frac{10}{4}$ or $\frac{8}{5}$
	(ii)	$x + x + 4$ oe $\frac{x}{5}$ or $\frac{x+4}{10}$ $\frac{x+x+4}{\frac{x}{5} + \frac{x+4}{10}} = 7$ oe 12	B1 B1 M2 B1	Must be seen Must be seen or M1 for evidence of total distance \div <i>their</i> total time
	(c) (i)	16.5[0] final answer	3	M2 for $19.8 \div \left(1 + \frac{20}{100}\right)$ oe or M1 for evidence of $(100 + 20)\%$ associated with 19.8
	(ii)	$\frac{100x}{100+y}$ final answer	3	B2 for $\frac{x}{1 + \frac{y}{100}}$ or $\frac{x}{1 + 0.01y}$ oe or B1 for $1 + \frac{y}{100}$ or $100 + y$ or $1 + 0.01y$ seen

6	198	4	<p>B3 for 197.7.... or answer 198.00 or M2 for $1800 \times \left(1 + \frac{1.5}{100}\right)^7 - 1800$ or B2 for answer 1998 or M1 for $1800 \times \left(1 + \frac{1.5}{100}\right)^7$ If B0 then B1 for seeing their answer in decimal form correctly written to the nearest integer</p>
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