

Revision F3 (Topics 1-3) [41] MARKSCHEME

1.

$$650 \times \frac{15}{100}$$

M1

oe

Accept a complete build up method

97.50

A1

Ignore subsequent working

NB 97.5 scores A0

[2]

2.

(a) (i) $a(2a - 1)$

B2

-1 e e o o

(ii) $-4.5 \times (2 \times -4.5 - 1)$

M1

M1 for substitution. f.t. their (a(i)).

45

A1ft

Ft on a(i) only

[4]

3.

96	P1	a strategy to start to solve the problem eg $18 \div (7 - 4) (=6)$
	P1	for completing the process of solution eg " 6 " $\times (4 + 5 + 7)$
	A1	cao

4.

(a)	Correct product using at least one prime factor	M1	For example $2 (\times) 126$ or $3 (\times) 84$ or $7 (\times) 36$ or $2 (\times) 2 (\times) 63$ or $2 (\times) 3 (\times) 42$ May be implied eg in a factor tree or repeated division
	$2 \times 2 \times 3 \times 3 \times 7$ or $2^2 \times 3^2 \times 7$	A1	
(b)	84	B1	

5.

15 000	3 3 AO1.3b	M2 for $18\,000 \div \frac{100 + 20}{100}$ oe Or M1 for 18 000 associated with $(100 + 20)\%$
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6.

- (a) (i) 9.17×10^6 B1
 (ii) 4.8×10^{-5} B1
 (b) $(1.8 \div 2) \times 10^{12-8}$ M1
 or 0.9×10^4
 or $1800000000000 \div 200000000$
 oe
 $9(0) \times 10^3$ or 9000 A1

[4]

7.

- (a) (i) c^8 B1
 (ii) e^5 B1
 (iii) h^6 B1
 (b) (i) $2k^3$ B1
 $2k^3 - 6k$ B1
 (ii) $x^2 + 7x - 2x - 14$ B1
Allow one term incorrect
 $x^2 + 5x - 14$ B1
 (iii) $9y^2 + 3y - 3y - 1$ B1
Allow one term incorrect
 $9y^2 - 1$ B1

[9]

8.

(a)	Final amount is less than initial investment	1 1 AO3.4b		Or equivalent correct reason
(b)	Used an incorrect multiplier for the interest rate	1 1 AO3.4a		Or equivalent correct reason
(c)	6498.40 or 6498.39	3 3 AO1.3a	M2 for 5800×1.023^5 Or M1 for 5800×1.023^n oe	Where $n \geq 1, n \neq 5$

9.

- $94.50 \div 126$ M1
 $\times 100$ M1 dep
 $94.50 \div 1.26$ M2
 75 A1
 $94.50 - 3.50 - \text{their } 75$ B1ft
 16
 Their 16 \div their 75 $\times 100$ M1
 21.3(...) A1ft

[6]

10.

proof leading to $\frac{7}{22}$	M1 for finding two correct recurring decimals that when subtracted would result in a terminating decimal or integer with intention to subtract eg $x = 0.31818\dots, 100x = 31.81818\dots$
	A1 fully correct proof