

Topic 3 Percentages and ratio (Post-TT) [31] MARKSCHEME

1.

$$560 \div 8 \times 7$$

M1

$$490$$

A1

70 SCI

[2]

2.

400×1.07	B1
-------------------	-----------

3.

$$10000 \times \frac{4}{100} \text{ (400)}$$

M1

$$\text{Their } 10400 \times \frac{4}{100} = 416 \text{ and their } 10816 \times \frac{4}{100} = (432.64)$$

M1

dep 10000 \times 1.04^3 M2

$$1248.64$$

A1

4.

6.25	3 3 A01.3b	M2 for $\frac{1.19 - 1.12}{1.12}$ oe (or 0.0625) or M1 for $\frac{1.19}{1.12}$ oe (or 1.0625)	
------	----------------------	--	--

5.

$\frac{90}{2} \times 3 = 135$ $\frac{84}{60} \times 100 = 140$	Combination with reason	P1 Links either $\frac{2}{3}$ with 90 and 60% with 84 P1 Process to find original price of microwave oven eg $\frac{90}{2} \times 3 (=135)$ P1 Process to find original price of combination oven eg $\frac{84}{60} \times 100 (=140)$ A1 Correct original prices £135 and £140 with interpretation of results to conclude that combination oven had greater normal price.
---	----------------------------	---

6.

Sight of 1.16

B1

If calculate 'interest' and 'add on' method used award M1 if at least three years shown. A1 for all 12 values accurate or rounded \approx 2320, 2691, 3122, 3621, 4201, 4873, 5652, 6557, 7606, 8823, 10235, 11872.

$$2000 \times \text{their } '1.16'^{12}$$

M1

Their 1.16 must be sensible 1.016, 1.6 etc.

11870 to 11875

A1

*Allow 11900 or 12000 if working seen. (no ft)
9872 is sc2 unless 11872 seen then fw.*

[3]

7.

Alternative method 1		
2 parts → 116	M1	oe
$116 \div 2 \times 16$	M1	oe
928	A1	
Alternative method 2		
Writes at least 3 ratios or numbers of boys and girls equivalent to 9 : 7	M1	eg 18 : 14 and 180 : 140 and 360 : 280
522 and 406	M1	
928	A1	

8.

$\text{€}2.80 = 1.12 \text{ of pre-VAT price or } 112\%$ M1
 or $\frac{2.80}{1.12} (= 2.5)$ M1

$\text{VAT} = \frac{12}{112} \times \text{€}2.80$ M1
 $\text{VAT} = 2.80 - (\text{their } 2.50)$ M1

$= \text{€}0.30$ A1
 $= \text{€}0.30 \text{ or } \text{€}0.3$ A1

[3]

9.

A : L : D
 7 : 5
 2 : 9

Lee same value for both 14 : 10 : 45 [B1 for 10, A1 for 14 or 45]
 Multiplier: 3 [M1] soi
 Dan has $3 \times 45 = 135$ counters [A1]

10.

(a)		2500	P1 for use of 1.03 P1 for a full method equivalent to $\div 1.03^2$ A1 2500
(b)		Saver account with support	P1 process to find a comparable total interest figure A1 for conclusion with supporting statement eg 21.(665.)>21