

MARK SCHEME for the October/November 2015 series

7101 COMMERCIAL STUDIES

7101/21

Paper 2 (Arithmetic), maximum raw mark 100

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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|---|---------|-----------------|-----|---|
| 1 | (a) | (0).5385 | [2] | M1 (0). 53846(...) or 7/13 If 0 scored then B1 for correct rounding from a ≥ 4 dp answer |
| | (b) | 26 | [2] | M1 $3\frac{1}{3} \div 100 \times 780$ oe or M1 for 25.9... |
| | (c) | 56.5 | [2] | M1 53 seen |
| 2 | (a) | £0.46 or 46p | [3] | M1 $2 \times 3.12 (= 6.24)$ M1 – 5.78 or M1 $3.12 - 5.78/2 (= 0.23)$ M1 <i>their</i> 0.23×2 |
| | (b) | 27.2 | [5] | M1 $650 \times 24 \times 8 (= 124\,800)$ M1 $8 \times 300 (= 2400)$ M1 <i>their</i> $124\,800 + \textit{their} 2400$ (= 127200) M1 $\div 1000$ or M1 $650 \times 24 (= 15\,600)$ M1 $+ 300 (= 15\,900)$ M1 <i>their</i> $15\,900 \times 8 (= 127\,200)$ M1 $\div 1000$ or M1 $8 \times 24 (= 192)$ M1 <i>their</i> $192 \times (450 + 200)$ M1 $+ 8 \times 300$ M1 $\div 1000$ |
| 3 | (a) | 3.5 | [4] | M1 $8640 - 8337.60 (= 302.40)$ M1 <i>their</i> $302.40 \div 8640$ M1 $\times 100$ |
| | (b) (i) | 45 | [2] | M1 (for 4 or 5 out of 5 correct) $20 + 14 + 7 + 3 + 1$ |
| | (ii) | 11 001 – 14 500 | [2] | M1 mention of 22 and 23, or 22.5 or <i>their</i> 45/2s |
| 4 | (a) | 188 | [3] | M1 $4.7 \times 1000 (= 4700)$ M1 $\div 25$ |
| | (b) | 6.14 | [5] | M1 $4.7 \times 55.2 (= 259.44)$ M1 \div <i>their</i> 188 A1 1.38 M1 $7.52 - \textit{their} 1.38$ or M1 $55.20 \div 1000$ M1 $\times 25$ (or M2 $55.2 \div 40$) A1 1.38 M1 $7.52 - \textit{their} 1.38$ or M1 $4.7 \times 55.2 (= 259.44)$ M1 $7.52 \times \textit{their} (a) (= 1413.76)$ M1 <i>their</i> $1413.76 - \textit{their} 259.44$ (= 1154.32) M1 <i>their</i> $1154.32 \div (a)$ |
| 5 | (a) | 232 000 | [4] | M1 $47500 - 33000 (= 14500)$ M1 <i>their</i> $14500 \div 6\frac{1}{4}$ M1 $\times 100$ |
| | (b) | 295.64 | [2] | M1 $7780 \times 3.8 \div 100$ |

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| 6 | (a) | 30 | [2] | M1 $108 \div 360 \times 100$ |
| | (b) | 79.2 | [3] | M1 $12100 \div 55000$ M1 $\times 360$ |
| | (c) | 11000 | [3] | M1 $5 \div 2$ M1 $\times 4400$ or M1 $2/10 = 4400$ so $1/10 = 2200$ M1 <i>their</i> 2200×5 |
| | (d) | 1858 nfwv | [8] | M1 $560000 \div 10000 \times 18$ A1 1008 M1 $2/100 \times 30000$ A1 600 M1 $1.25/100 \times 20000$ A1 250 M1 Adding their 3 values |
| 7 | (a) | Option A 1737.5(0) | [11] | M1 $34000 \times 3\frac{1}{4} \div 100$ M1 $\times 2\frac{1}{2}$ A1 2762.50 M1 $34000 +$ <i>their</i> 2762.50 A1 36762.50 M1 $30 \times 950 (= 28500)$ M1 $+ 10000$ A1 38500 M1 Finding difference between <i>their</i> Option A and <i>their</i> Option B B1 Sensible option stated from their results. |
| | (b) | 28220 | [4] | M1 $100 - 17$ M1 $\div 100 (= 0.83)$ M1 $\times 34000$ or M1 $17/100$ M1 $\times 34000 (= 5780)$ M1 $34000 -$ <i>their</i> 5780 |
| 8 | (a) (i) | 58.32 | [2] | M1 $162 \div 175 \times 63$ |
| | (ii) | 189 | [2] | M1 $100.98 \div 93.50 (= 1.08) \times 175$ |
| | (b) | (0)7:42 | [5] | M1 286/65 B1 4.4 A1 4h 24m M1 12:06 – <i>their</i> 4: 24 Or M1 286/65 B1 4.4 M1 12.1 – <i>their</i> 4.4 A1 7.7 |
| Section B | | | | |
| 9 | (a) | 62 | [7] | M1 $5 \times 18.60 (= 93)$ M1 $5000 \div 100 (= 50)$ M1 $50 \times 0.05 (= 2.50)$ M1 <i>their</i> 93 + <i>their</i> 2.50 (= 95.50) M1 $50 \times 3.15 (= 157.50)$ M1 <i>their</i> 157.50 – <i>their</i> 95.50 or M1 $5 \times 18.6 (= 93)$ M1 $5000 \div 100 (= 50)$ M1 $3.15 - 0.05$ M1 3.10×50 A1 = 155 M1 $155 - 93$ |
| | (b) | 273.75 | [5] | M1 $1700 - 9.30$ A1 7.5 M1 $7.5 \times 5 (= 37.5)$ M1 $\times 7.30$ or M1 A1 as above then $7.30 \times 7\frac{1}{2}$ M1 $\times 5$ |

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| 10 | (a) | 0.728(4) | [3] | M1 Adding daily values (= 3.642) M1 $\div 5$ |
| | (b) | 4.17 | [9] | M1 $76\,500 \div 0.75$ A1 102 000 M1 $76\,500 \div 0.72$ A1 106 250 M1 <i>their</i> 106250 – <i>their</i> 102 000 A1 4250 M1 <i>their</i> $4250/\text{their } 102\,000 \times 100$ (= 4.1666...) B1 Rounding a > 3 fig answer correctly to 3 sf |
| 11 | (a) | 4.6 | [3] | Allow 4.55 – 4.63 M1 1840/400 (Allow 1820 – 1850) |
| | (b) | Correct ruled straight line | [5] | M1 400×4.20 oe A1 1680 P1 (400, 1680) plotted – accept plot between 1650 and 1700 A1 Ruled straight line from (0,0) to (400, <i>their</i> 1680) |
| | (c) | 5.2(0) | [4] | M1 $4.41 \div 4.20$ A1 1.05 M1 $5.46 \div 1.05$ or M1 $4.2 \div 4.41$ A1 0.9523(809524) M1 $0.9523... \times 5.46$ |
| 12 | (a) | 25 000 | [3] | M1 $9 + 5 + 2$ (= 16) M1 $80\,000 \div \text{their } 16 \times 5$ |
| | (b) | 1987.53 | [8] | M1 $80\,000 \times 1.045$ (= 83 600) M1 $83\,600 \times 1.045$ (= 87 362) M1 $87\,362 \times 1.045$ (= 91 293.29) M1 $91\,293.29 \times 1.045$ B1 95401.48(805) or 95401.49 M1 <i>their</i> $95\,401.48 \div 48$ A1ft 1987.53(1042) If final A1 not awarded then B1 for rounding a ≥ 3 dp answer to 2 dp |
| | (c) | White | [1] | 500 000 scores 0 |