

**MARK SCHEME for the October/November 2011 question paper  
for the guidance of teachers**

**7101 COMMERCIAL STUDIES**

**7101/02**

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 must be read in conjunction with the question papers and the report on the examination.

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### Section A

1	(a) 121.95 oe	3	<b>B1</b> 43.95 <b>B1</b> 78
	(b) (i) 0.625	2	<b>M1</b> $5 \div 8$ or 0.625 seen in working
	(ii) 62.5	1	<b>A1</b> $\sqrt{\quad}$
	(c) 15	3	<b>B2</b> 15.6(...) or <b>M1</b> figs $5 \div$ figs 32
2	(a) (i) 1.39	3ft	<b>M1</b> $2.35 \times 59$ or $2.35 \times 0.59$ <b>A1</b> 138.65 or 1.3865
	(ii) 56	3ft	<b>M1</b> $59 \times 0.957$ or $59 - (59/100) \times 4.3$ <b>A1</b> 56.463
	(b) 20.93	3	<b>M1</b> $100 - 29.2$ or 70.8% <b>M1</b> $(14.82/“70.8”) \times 100$
3	(a) 3.5	3	<b>M1</b> $294 \div 2$ <b>M1</b> $(“147”/4200) \times 100$ or <b>M1</b> $294 = (4200 \times R \times 2)/100$ <b>M1</b> $294 \times 100/(4200 \times 2)$
	(b) (i) 414.4(0)	3	<b>M1</b> 148/125 <b>M1</b> “1.184” $\times 350$ or <b>M1</b> 125/148 <b>M1</b> 350/“0.844...”
	(ii) 175	3	<b>M1</b> 490/350 or 490/“414.4” <b>M1</b> “1.4” $\times 125$ or “1.1824...” $\times 148$
4	(a) (i) 4 : 8 : 3	2	<b>B1</b> $\times : 2\times : \frac{3}{4}\times$ in any order
	(ii) 38 096	3	<b>M1</b> largest/total <b>M1</b> “8/15” $\times 71\ 430$ oe
	(iii) 15 385.5(0)	3	<b>M1</b> smallest/largest <b>M1</b> “3/8” $\times 41\ 028$ oe
	(b) 17 630	3	<b>M2</b> $21\ 500 \times 0.82$ or <b>B1</b> 0.82 or 82% or 82/100 or <b>M2</b> $21\ 500 - 21\ 500 \times 18/100$ or <b>B1</b> 3870
5	(a) May 12 www	6	<b>B1</b> correct date shift column <b>M1</b> products <b>M1</b> $\Sigma$ products <b>B1</b> 30 000 <b>M1</b> “ $\Sigma$ ”/“30 000”
	(b) 20 392.32	6	<b>M1</b> $400 \times 60$ <b>A1</b> 24 000 <b>M1</b> $0.86 \times “24\ 000”$ <b>A1</b> 20 640 <b>M1</b> $0.988 \times “20\ 640”$ or <b>M1</b> $0.988 \times “24\ 000”$ <b>A1</b> 23 712 <b>M1</b> $0.86 \times “23\ 712”$
6	(a) Allow 1170.68 or 1170.69	8	<b>M1</b> $(540\ 000 \div 20\ 000) \times 36.15$ <b>A1</b> 976.05 <b>M1</b> $(25\ 000 \div 5000) \times 51.25$ <b>A1</b> 256.25 <b>M1</b> “976.05” + “256.25” <b>A1</b> 1232.3(0) <b>M1</b> $0.95 \times “1232.3(0)”$
	(b) 152 000 or 0.152 million	6	<b>M1</b> figs $38 \times 1.82$ <b>A1</b> 6.916 or 6 916 000 <b>M1</b> “figs 6916” $\div 1.75$ <b>A1</b> 3.952 or 3 952 000 <b>M1</b> “figs 3952” – figs 3.8

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<b>7</b>	<b>(a)</b> 17 250 000 10 800 000 6 750 000 5 700 000	4	<b>B1</b> <b>B1</b> <b>B1</b> <b>B1</b>
	<b>(b) (i)</b> 67 680 000	2	<b>M1</b> 114 680 000 – 47 000 000
	<b>(ii)</b> 11.9(288...)	4	<b>M1</b> “67 680 000” – 54 000 000 <b>A1</b> 13 680 000 <b>M1</b> (“13 680 000” ÷ 114 680 000) × 100
<b>(c)</b> 1 915 200	2	<b>M1</b> “13 680 000” × 0.14	

### Section B

<b>8</b>	<b>(a)</b> 32	4	<b>M1</b> $6\frac{2}{3}$ or 6h40m × 4 <b>M1</b> $5\frac{1}{3}$ or 5h20m <b>M1</b> “ $26\frac{2}{3}$ ” + “ $5\frac{1}{3}$ ” (26h40m)
	<b>(b)</b> 281.6(0)	2	<b>M1</b> $22 \times 12.80$
	<b>(c) (i)</b> <u>8.6</u> or ft	4ft	<b>M1</b> $2\frac{3}{4}$ or 2h 45m <b>M1</b> (“ $2\frac{3}{4}$ ” ÷ <b>(a)</b> ) × 100
	<b>(ii)</b> 13.44	2	<b>A1</b> 8.59(375...) <b>B1</b> $\checkmark$ <b>M1</b> $1.05 \times 12.80$ or $12.80 + (5/100) \times 12.80$
<b>9</b>	<b>(a) (i)</b> 4.15	1	
	<b>(ii)</b> 4.26	2	<b>M1</b> mention of $3\frac{1}{2}$ <sup>th</sup> value or $(4.15 + 4.37) \div 2$
	<b>(iii)</b> 4.5	4	<b>M1</b> identifying 4.37, 4.52 and 4.61 <b>M1</b> $\Sigma$ 3 terms <b>M1</b> “ $\Sigma$ ” ÷ 3
<b>(b)</b> <u>6396</u>	5ft	<b>M1</b> $5600 \times 1.0453$ <b>M1</b> $\times 1.0453$ <b>M1</b> $\times 1.0453$ <b>A1</b> 6396.0(35686...) <b>B1</b> $\checkmark$	
<b>10</b>	<b>(a)</b> 80 85 125 160 195	4	<b>B3</b> for 4 correct values <b>B2</b> for 3 correct values <b>B1</b> for 2 correct values
	<b>(b) (i)</b> line for option B	4	<b>B1</b> (200,90) plotted <b>B1</b> (0, their 80) or (500, their 90) plotted <b>B1</b> for correct ruled line segment from (0,80) to (200,90) <b>B1</b> for correct ruled line segment from (200,90) to (500,195)
	<b>(ii)</b> option B	1ft	
<b>(c)</b> 371	3	<b>M1</b> $46/(0.35 - 0.08)$ <b>M1</b> $200 + “170.37”$ or <b>SC3</b> 370 to 372 without working (from graph)	

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<b>11</b>	<b>(a)</b> 8428.16	4	<b>M1</b> $6500 \times 1.28$ <b>A1</b> 8320 <b>M1</b> "8320" $\times 1.013$
	<b>(b)</b> 273	2	<b>M1</b> $6500 \times 4.2$ or $6500 \times 0.042$
	<b>(c)</b> 6.25	3	<b>M2</b> $(1.36 - 1.28) \times 100/1.28$ or <b>M1</b> $1.36 - 1.28 = 0.08$ OR <b>M2</b> $(136 - 128) \times 100/128$ or <b>M1</b> $136 - 128 = 8$
	<b>(d)</b> 1.32		<b>M1</b> $6209.28 \div 0.98 (= 6336)$ <b>M1</b> "6336" $\div 4800$ or $6209.28 \div 4800 (= 1.2936)$