Paper 3

QUESTION	WORKING	ANSWER	MARKS AND GUIDANCE
1	$120\% = £480$ $1\% = \frac{£480}{120}$ $100\% = \frac{£480}{120} \times 100$	 £400.00	1 for evidence of correct method. 1 for correct answer.
2	$(2 \times 0.3)^2$	0.4	1 for numbers in the calculation to one significant figure. 1 for correct answer.
3a		$x = 10$	1 for correct answer.
3b		$x = 8$	1 for correct answer.
3c		$x = \frac{7}{4}$ or 3	1 for correct answer.
4	$36 = 2 \times 2 \times 3 \times 3$ $40 = 2 \times 2 \times 2 \times 5$ $LCM = 2 \times 2 \times 2 \times 3 \times 3 \times 5$	360	1 listing the prime factors of each number. 0 marks for no evidence of working out. 1 for correct answer.
5a	Diagonal of base $= \sqrt{2900}$	54.8 cm	1 for finding diagonal of base. 1 for correct answer.
5b	$\tan^{-1} \frac{10}{54.8\ldots}$	10.3°	1 for the use of trigonometry. 1 for correct answer.
6	$x = \frac{7 \pm \sqrt{(-7)^2 - 4(3)(-1)}}{2(3)}$ $= \frac{7 \pm \sqrt{61}}{6}$ $= \frac{7 + \sqrt{61}}{6}$ or $\frac{7 - \sqrt{61}}{6}$	2.47 or –0.14 (2 d.p.)	1 for correct substitution into formula. 1 for simplification of terms. 1 for separation of answers. 1 for **two** correct answers.
7	$y = 3(x^2 - 2x + 3)$ $= 3\,[(x - 1)^2 - 1 + 3]$ $= 3\,[(x - 1)^2 + 2]$	(1, –2)	1 for taking 3 out as a factor. 1 for attempt at completing the square. 1 for correct coordinates.