

	Give one mark for each •	Illustrations for awarding each mark
1	ans: 5·6 2 KU ● ¹ know order of calculations ● ² carry out calculations	● ¹ $13 \cdot 5 \div 5 = 2 \cdot 7$ ● ² answer
2	ans: $\frac{23}{24}$ 2 KU ● ¹ uses appropriate method ● ² evaluate	● ¹ $1\frac{5}{8} - \frac{2}{3} = 1\frac{15}{24} - \frac{16}{24}$ ● ² $\frac{23}{24}$
3	ans: $P = \frac{7}{W+5}$ 3KU ● ¹ starts to change subject ● ² cross multiplies ● ³ completes change of subject	● ¹ $WP = 7 - 5P$ ● ² $P(W + 5) = 7$ ● ³ $P = \frac{7}{W+5}$
4	ans: $x \leq \frac{13}{3}$ 4 KU ● ¹ removing brackets ● ² collecting like terms ● ³ knows to reverse inequality ● ⁴ solving inequation	● ¹ $3 - 12x + 16 \geq 6 - 9x$ ● ² $-3x \geq -13$ ● ³ $x \leq$ ● ⁴ $\frac{13}{3}$
5(a)	ans: $(2k - 5)(2k + 5)$ 1 KU ● ¹ recognising difference of 2 squares	● ¹ answer
5(b)	(i) ans: P(-3, 0) and Q(0·5, 0) 3RE ● ¹ equates to 0 and factorises ● ² solves equation ● ³ states coordinates of P and Q (ii) ans: $x = -1.25$ 1 KU	● ¹ $(2x - 1)(x + 3) = 0$ ● ² $x = 0 \cdot 5$ or $x = -3$ ● ³ answer ● ¹ answer
6	ans: £15 3KU ● ¹ identifies ratio problem ● ² attempts to calculate cost ● ³ correct calculations	● ¹ $120\% = \text{£}18$ ● ² $\frac{100}{120} \times \text{£}18$ ● ³ answer

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7	ans: 9.5 ● ¹ uses simultaneous equations ● ² forms two equations ● ³ calculates one variable ● ⁴ calculates second variable ● ⁵ evaluates function	5RE	● ¹ $a + b = 2$ ● ² $3a + b = 7$ ● ³ $a = 2.5$ ● ⁴ $b = -0.5$ ● ⁵ $f(4) = 2.5(4) - 0.5 = 9.5$
8(a)	ans: (-1,0) ● ¹ substitutes $y = 0$ ● ² solves for x	2KU	● ¹ $3x + 3 = 0$ ● ² answer
8(b)	ans: (-3, -3) ● ¹ correct strategy ● ² substitutes $y = x$ ● ³ solves for one variable ● ⁴ states point	4RE	● ¹ $y = x$ ● ² $2x = 3x + 3$ ● ³ $x = -3$ ● ⁴ answer
9	ans: 11.25 (sq.units) ● ¹ substitution into area formula ● ² substitution of $\sin 30 = \frac{1}{2}$ ● ¹ evaluate correctly	3KU	● ¹ $A = \frac{1}{2} \times 5 \times 9 \sin 30$ ● ² $A = \frac{1}{2} \times 5 \times 9 \times \frac{1}{2}$ ● ³ answer
10	ans: 12 sides ● ¹ interprets information correctly ● ² creates quadratic equation ● ³ solves equation ● ⁴ finds solutions ● ⁵ discards unsuitable solution	5RE	● ¹ $\frac{1}{2}x(x-3) = 54$ ● ² $x^2 - 3x - 108 = 0$ ● ³ $(x-12)(x+9) = 0$ ● ⁴ $x = 12$ or -9 ● ⁵ 12 sides

Total : KU 21 RE 17
