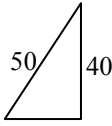


Qu	Give one mark for each •	Illustration for awarding mark
1	ans : 63·7 mg lost 4 marks <ul style="list-style-type: none"> •¹ uses correct multiplier •² knows how to calculate amount left •³ finds amount remaining •⁴ calculates amount lost 	<ul style="list-style-type: none"> •¹ 0·88 •² $0·88^3 \times 200$ [or 3 individual calculations] •³ 136·3 •⁴ $200 - 136·3 = 63·7$ mg
2a	ans : $4x + 5y = 3·88$ 1 mark <ul style="list-style-type: none"> •¹ correct equation 	<ul style="list-style-type: none"> •¹ $4x + 5y = 3·88$
b	ans: $3x + 2y = 2·14$ 1 mark <ul style="list-style-type: none"> •¹ correct equation 	<ul style="list-style-type: none"> •¹ $3x + 2y = 2·14$
c	ans : £1.28 4 marks <ul style="list-style-type: none"> •¹ knows to use sim.equations •² prepares equations to solve •³ finds cost of 1 egg and 1 flake •⁴ answer 	<ul style="list-style-type: none"> •¹ evidence •² $12x + 15y = 11·64; 12x + 8y = 8·56$ •³ egg = 42p; flake = 44p •⁴ $(2 \times 42) + 44 = £1.28$
3	ans : $\frac{26x - x^2}{5(x-1)}$ 3 marks <ul style="list-style-type: none"> •¹ correct denominator •² correct numerator •³ simplifies numerator 	<ul style="list-style-type: none"> •¹ $5(x-1)$ •² $25x - x(x-1)$ •³ $\frac{26x - x^2}{5(x-1)}$
4a	ans : 250cm^3 1 mark <ul style="list-style-type: none"> •¹ finds volume and rounds 	<ul style="list-style-type: none"> •¹ $15·2 \times 4·8 \times 3·4 = 250\text{cm}^3$ [2 sig.figs.]
b	ans : 1·34 cm 4 marks <ul style="list-style-type: none"> •¹ finds volume of 1 sphere •² substitutes values in formula •³ re-arranges to r^3 •⁴ takes cube root 	<ul style="list-style-type: none"> •¹ $250 \div 25 = 10\text{cm}^3$ •² $10 = \frac{4}{3}\pi r^3$ •³ $r^3 = 2·387324\dots$ •⁴ $r = 1·34$ cm
5	ans : 96° 2 marks <ul style="list-style-type: none"> •¹ knows $\angle BPA$ is right angled •² knows AB is axis of symmetry 	<ul style="list-style-type: none"> •¹ $\angle BAP = 90 - 42 = 48^\circ$ •² $\angle PAQ = 96^\circ$
6a	ans : 7, 15, 23, 28, 31, 33, 34 1 mark <ul style="list-style-type: none"> •¹ cumulative frequency completed 	<ul style="list-style-type: none"> •¹ 7, 15, 23, 28, 31, 33, 34
b	ans: 13 years 1 mark <ul style="list-style-type: none"> •¹ median identified 	<ul style="list-style-type: none"> •¹ 13 years

Qu	Give one mark for each •	Illustration for awarding mark
7	ans : 54.5cm^2 or 54.4cm^2 2 marks • ¹ uses correct fraction • ² answer	<u>Using π</u> • ¹ $\frac{135}{360} \times \pi \times 6.8^2$ • ² 54.5cm^2 <u>Using 3.14</u> $\frac{135}{360} \times 3.14 \times 6.8^2$ 54.4cm^2
8a	ans : $P = 3W + 5$ 3 marks • ¹ finds gradient • ² finds y - intercept • ³ states equation of line	• ¹ $m = \frac{35 - 5}{10 - 0} = \frac{30}{10} = 3$ • ² (0, 5) • ³ $P = 3W + 5$
b	ans: 86 points 1 mark • ¹ substitutes and evaluates	• ¹ $3 \times 27 + 5 = 86$
9	ans : 120 km 3 marks • ¹ calculates missing angle • ² evidence of Sine Rule with values • ³ calculates required length	• ¹ $\angle A = 180 - (28 + 82) = 70^\circ$ • ² $60/\sin 28^\circ = PQ/\sin 70^\circ$ • ³ $PQ = 120 \text{ km}$
10	ans : 1.3 or -2.8 4 marks • ¹ knows to use quadratic formula • ² finds value of discriminant • ³ substitutes correctly in formula • ⁴ correctly rounded	• ¹ evidence • ² $b^2 - 4ac = 3^2 - 4 \times 2 \times (-7) = 65$ • ³ $\frac{-3 + \sqrt{65}}{4}$ or $\frac{-3 - \sqrt{65}}{4}$ • ⁴ 1.3 or -2.8
11	ans : 60cm 4 marks • ¹ assembles facts in right triangle • ² knows to use Pythagoras • ³ finds half the width • ⁴ answer	• ¹ • ² $50^2 - 40^2$ • ³ 30cm • ⁴ 60cm 
12	ans : 20.4 3 marks • ¹ calculates $(x - \bar{x})^2$ • ² substitutes into formula • ³ calculates standard deviation	• ¹ 56.25, 30.25, 210.25, 2.25, 1640.25, 132.25 • ² $s = \sqrt{\frac{2071.5}{5}}$ • ³ $s = 20.4$
13	ans: 3.8cm 4 marks • ¹ knows to use cosine rule • ² substitutes values correctly in formula • ³ calculates value of p^2 correctly • ⁴ takes square root	• ¹ evidence • ² $p^2 = 3 \cdot 5^2 + 4 \cdot 5^2 - (2 \times 3 \cdot 5 \times 4 \cdot 5 \cos 55^\circ)$ • ³ $p^2 = 14.43234 \dots$ • ⁴ 3.8 (3.79899...)

