

Qu	Give one mark for each •	Illustration for awarding mark
1	ans : £6069 3 marks <ul style="list-style-type: none"> •¹ finds value after 1 year •² finds value after 2 years •³ finds value after 3 years 	<ul style="list-style-type: none"> •¹ $0.8 \times 10\,500 = \text{£}8400$ •² $0.85 \times 8400 = \text{£}7140$ •³ $0.85 \times 7140 = \text{£}6069$
2a	ans : 1.3 3 marks <ul style="list-style-type: none"> •¹ finds deviations and squares •² substituting in formula •³ answer 	<ul style="list-style-type: none"> •¹ 0.09, 0.36, 1, 0.16, 2.56, 4.41 •² $\sqrt{(8.58/5)}$ •³ 1.3
b	ans: mean lower/more spread out 1 mark <ul style="list-style-type: none"> •¹ valid comment 	<ul style="list-style-type: none"> •¹ lower mean but more spread
3	ans : £1616.38 6 marks <ul style="list-style-type: none"> •¹ calculates total of bonus and total salary •² finds taxable income •³ finds 10% of £2020 •⁴ finds balance of taxable income •⁵ finds 22% of £6429 •⁶ calculates total tax bill 	<ul style="list-style-type: none"> •¹ $\text{£}11844 + 1350 = \text{£}13194$ •² $\text{£}13194 - 4745 = \text{£}8449$ •³ $\text{£}202$ •⁴ $\text{£}8449 - 2020 = \text{£}6429$ •⁵ $\text{£}1414.38$ •⁶ $\text{£}1414.38 + 202 = \text{£}1616.38$
4	ans : 83° 4 marks <ul style="list-style-type: none"> •¹ for use of correct formula •² for establishing diameter of circle (arc) •³ for re-arrangement •⁴ answer 	<ul style="list-style-type: none"> •¹ $arc = \frac{\theta}{360} \times \pi D$ •² $26.1 = \frac{\theta}{360} \times 36\pi$ •³ $\theta = \frac{360 \times 26.1}{36\pi}$ •⁴ 83°
5a	ans : 11404cm³ 2 marks <ul style="list-style-type: none"> •¹ substituting in formula •² answer 	<ul style="list-style-type: none"> •¹ $V = \pi \times 11^2 \times 30$ •² 11404cm³
b	ans: 75 4 marks <ul style="list-style-type: none"> •¹ substitute into correct formula •² evaluate volume of one sphere •³ division into cylinder volume •⁴ answer 	<ul style="list-style-type: none"> •¹ $V = \frac{4}{3}\pi r^3 = \frac{4}{3}\pi \times 3.3^3$ •² 150.53 cm³ •³ 11404 / 150.53 •⁴ 75
6	ans: too cold by 14.4° 3 marks <ul style="list-style-type: none"> •¹ substitutes in formula •² answer •³ valid conclusion 	<ul style="list-style-type: none"> •¹ $C = [5(220-32)]/9 \dots\dots$ •² $\dots\dots = 104.4^\circ$ •³ too cold by 14.4°

Qu	Give one mark for each •	Illustration for awarding mark
7a	ans : $3x + 2y = 255$ 1 mark • ¹ states equation	• ¹ $3x + 2y = 255$
b	ans: $2x + 3y = 270$ 1 mark • ¹ states equation	• ¹ $2x + 3y = 270$
c	ans : 45p and 60p 4 marks • ¹ knows to solve simultaneous eqs. • ² finds a value for x and y • ³ finds correct values for x and y • ⁴ states cost of each drink	• ¹ knows to solve simultaneous eqs. • ² any values found for x and y • ³ $x = 45; y = 60$ • ⁴ coke costs 45p; orange costs 60p
8	ans : 11.4cm 4 marks • ¹ assembles facts in right angled triangle • ² knows to use Pythagoras • ³ finds half width • ⁴ final answer	• ¹ • ² $6^2 - 2^2 = 32$ • ³ $\sqrt{32} = 5.7$ • ⁴ $5.7 \times 2 = 11.4$
9	ans : 11.6cm² 7 marks • ¹ knows to find area of triangle • ² answer • ³ uses correct angle for sector • ⁴ finds area of outer circle • ⁵ finds area of inner circle • ⁶ finds area of ring • ⁷ finds total area	• ¹ Area $\Delta = \frac{1}{2} \times 3 \cdot 5^2 \times \sin 40$ • ² 3.93..... cm ² • ³ 320° • ⁴ $\frac{320}{360} \times \pi \times 3^2 = 25.1$ • ⁵ 17.45..... • ⁶ 7.65..... • ⁷ 7.65..... + 3.93..... 11.6cm ²
10	ans : 18.4m 6 marks • ¹ finds third angle in triangle • ² uses sine rule to find AB or BC • ³ answer • ⁴ uses SOH CAH TOA to find vertical • ⁵ answer • ⁶ subtracts to find height	• ¹ $180 - (60 + 62) = 58^\circ$ • ² $24/\sin 58^\circ = c/\sin 62^\circ$ (or equivalent) • ³ 25m • ⁴ $\sin 60^\circ = x/25$ (or equivalent) • ⁵ $x = 21.6m$ • ⁶ $40 - 21.6 = 18.4m$
		Total 49 marks