

Qu	Give one mark for each •	Illustration for awarding mark
1	<p>ans : £1 800 000 000 3 marks</p> <ul style="list-style-type: none"> •¹ finds missing angle •² makes fraction •³ answer 	<ul style="list-style-type: none"> •¹ 72° •² 72/360 •³ £1 800 000 000
2	<p>ans : gains £140.49 5 marks</p> <ul style="list-style-type: none"> •¹ uses correct multiplier •² answer •³ correct multiplier •⁴ answer •⁵ states gain 	<ul style="list-style-type: none"> •¹ × 0.95² •² £9025 •³ × 1.06² •⁴ £10 140.49 •⁵ gains £140.49
3a	<p>ans : 12 minutes 1 mark</p> <ul style="list-style-type: none"> •¹ finds mean 	<ul style="list-style-type: none"> •¹ 72 ÷ 6 = 12 minutes
(ii)	<p>ans: 4.05 3 marks</p> <ul style="list-style-type: none"> •¹ finds $(\sum x)^2$ and $\sum x^2$ •² substitutes into formula •³ answer 	<ul style="list-style-type: none"> •¹ 5184, 946 •² $s.d. = \sqrt{\frac{946 - \frac{5184}{6}}{5}}$ •³ 4.05
b	<p>ans : appropriate comment 1 mark</p> <ul style="list-style-type: none"> •¹ makes appropriate comparison 	<ul style="list-style-type: none"> •¹ waiting times more consistent since SD is less
4a	<p>ans : 166 2 marks</p> <ul style="list-style-type: none"> •¹ substitutes values into formula •² answer 	<ul style="list-style-type: none"> •¹ 217 - (0.85 × 60) = 217 - 51 •² 166
b	<p>ans: 48 years 3 marks</p> <ul style="list-style-type: none"> •¹ substitutes values in formula •² simplifies •³ answer 	<ul style="list-style-type: none"> •¹ 176 = 217 - (0.85 × A) •² 0.85 × A = 41 •³ 41 ÷ 0.85 = 48 years
5	<p>ans : 62° 3 marks</p> <ul style="list-style-type: none"> •¹ recognises isosceles triangles •² knows tangent is perp. to radius •³ finds required angle 	<ul style="list-style-type: none"> •¹ ∠OLK = 28° •² ∠OLM = 90° •³ ∠KLM = 90 - 28 = 62°
6	<p>ans : 36.8cm 5 marks</p> <ul style="list-style-type: none"> •¹ uses correct fraction •² knows how to find arc length •³ uses correct diameter •⁴ finds perimeter of one section •⁵ finds total perimeter 	<ul style="list-style-type: none"> •¹ 40/360 •² × π × 6.8 = 2.4cm •³ 6.8 in formula •⁴ 2.4 + 3.4 + 3.4 = 9.2cm •⁵ 9.2 × 4 = 36.8cm

Qu	Give one mark for each •	Illustration for awarding mark
7	ans : 113.8° 4 marks <ul style="list-style-type: none"> •¹ knows to use the sine rule •² substitutes values and rearranges •³ finds acute angle •⁴ finds obtuse angle 	<ul style="list-style-type: none"> •¹ evidence •² $\sin Q = 19\sin 32^\circ/11$; $\sin Q = 0.915\dots$ •³ 66.2° •⁴ $180 - 66.2 = 113.8^\circ$
8a	ans : £44 1 mark <ul style="list-style-type: none"> •¹ correct calculation 	<ul style="list-style-type: none"> •¹ $(80 \times 55) \div 100 = £44$
b	ans: = SUM (E3:E7) 1 mark <ul style="list-style-type: none"> •¹ answer 	<ul style="list-style-type: none"> •¹ =SUM (E3:E7)
9	ans : £152.50 2 marks <ul style="list-style-type: none"> •¹ calculates total deductions •² calculates net pay 	<ul style="list-style-type: none"> •¹ $25.56 + 11.34 = 36.90$ •² $189.40 - 36.90 = 152.50$
10	ans : 84.2 cm^3 4 marks <ul style="list-style-type: none"> •¹ evaluates volume of cuboid •² knows to calculate volume of cone •³ evaluates volume •⁴ evaluates remaining volume 	<ul style="list-style-type: none"> •¹ $V_{\text{cuboid}} = 4 \times 4 \times 6 = 96$ •² $V = \frac{1}{3} \times \pi \times 1.5^2 \times 5$ •³ 11.8 •⁴ $96 - 11.8 = 84.2$
11a	ans : 59° 2 marks <ul style="list-style-type: none"> •¹ knows to use area of triangle formula •² answer 	<ul style="list-style-type: none"> •¹ $51.4 = 0.5 \times 12 \times 10 \times \sin x^\circ$ •² 59°
b	ans : 11cm 3 marks <ul style="list-style-type: none"> •¹ knows to use cosine rule •² substitutes values •³ answer 	<ul style="list-style-type: none"> •¹ evidence •² $12^2 + 10^2 - (2 \times 10 \times 12 \times \cos 59^\circ)$ •³ 11cm
12	ans : $y = -\frac{5}{3}x - 3$ 3 marks <ul style="list-style-type: none"> •¹ rearranges equation •² selects appropriate information •³ states equation of line 	<ul style="list-style-type: none"> •¹ $y = -5/3x + 4/3$ •² $m = -5/3$ •³ $y = -5/3x - 3$
13	ans : £4 615 4 marks <ul style="list-style-type: none"> •¹ correct path to find basic cost •² knows to find 5% of basic cost •³ finds cost of all inclusive •⁴ finds total cost 	<ul style="list-style-type: none"> •¹ $£975 \times 4 = £3 900$ •² $5\% \text{ of } £3 900 = £195$ •³ $£130 \times 4 = £520$ •⁴ $£3 900 + 195 + 520 = £4 615$
		Total 50 marks