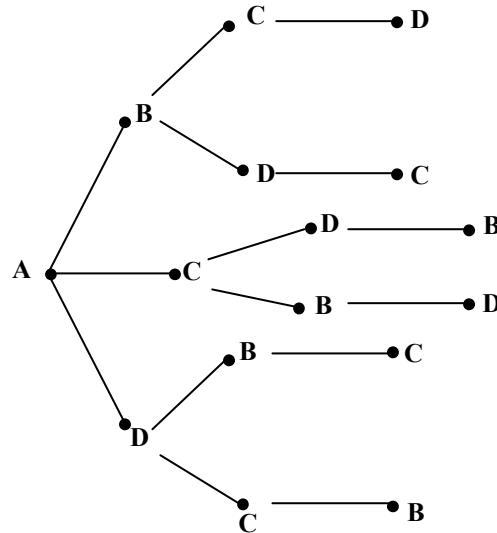
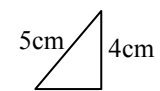


Qu	Give one mark for each •	Illustration for awarding mark
1a	ans : 3, 7, 2, 3, 3, 3 / 3, 10, 12, 15, 18, 21 2 marks <ul style="list-style-type: none"> •¹ correct frequencies •² correct cumulative frequencies 	<ul style="list-style-type: none"> •¹ 3, 7, 2, 3, 3, 3 •² 3, 10, 12, 15, 18, 21
b	ans: 3/7 2 marks <ul style="list-style-type: none"> •¹ correct numerator •² simplified fraction 	<ul style="list-style-type: none"> •¹ 9/..... •² 3/7
2	ans: $y = 4x + 3$ 3 marks <ul style="list-style-type: none"> •¹ finds gradient of line •² states y-intercept •³ states equation of line 	<ul style="list-style-type: none"> •¹ $m = 4$ •² $c = 3$ •³ $y = 4x + 3$
3a	ans : £400 3 marks <ul style="list-style-type: none"> •¹ knows to multiply by 36 •² total of repayments •³ subtracts to find cost of loan. 	<ul style="list-style-type: none"> •¹ $£150 \times 36$ •² £5400 •³ $£5400 - £5000 = £400$
b	ans: £162 2 marks <ul style="list-style-type: none"> •¹ knows to find percentage •² adds to answer 	<ul style="list-style-type: none"> •¹ 8% of £150 = £12 •² $£150 + £12 = £162$
4a	ans : $(7 - 5a)(7 + 5a)$ 1 mark	<ul style="list-style-type: none"> •¹ $(7 - 5a)(7 + 5a)$
(i)	• ¹ recognises difference of two squares	
(ii)	ans: $(2d - 3)(d + 5)$ 2 marks <ul style="list-style-type: none"> •¹ one factor correct •² second factor correct 	<ul style="list-style-type: none"> •¹ $(2d - 3).....$ •² $.....(d + 5)$
b	ans: $23 - 4x$ 2 marks <ul style="list-style-type: none"> •¹ multiplies out bracket •² collects like terms 	<ul style="list-style-type: none"> •¹ $.....-10x + 15.....$ •² $23 - 4x$
5	ans : $(4x - 5)$ 4 marks <ul style="list-style-type: none"> •¹ establishes perimeter of square •² establishes formula for perimeter of rect. •³ equates perimeters to form equation •⁴ expression for l 	<ul style="list-style-type: none"> •¹ $4(3x - 2)$ •² $2(2x + 1) + 2l$ •³ $4x + 2 + 2l = 4(3x - 2)$ •⁴ $l = 4x - 5$
6	ans: £60 3 marks <ul style="list-style-type: none"> •¹ knows to make selling price equal to £75 •² finds 1% •³ finds 100% NB – fractions could also be used.	<ul style="list-style-type: none"> •¹ 125% = £75 •² 1% = 75/125..... •³ 100% = 75/125 × 100 = £60

Qu	Give one mark for each •	Illustration for awarding mark
7a	ans: tree diagram drawn 3 marks • ¹ • ² for each pair of routes • ³	• ¹ • ² see below • ³
b	ans: ACDB 3 marks • ¹ finds total for 3 routes • ² finds total for further 3 routes • ³ chooses suitable route	• ¹ 55, 45, 42 • ² 53, 47, 46 • ³ ACDB
		Total 30 marks



Qu	Give one mark for each •	Illustration for awarding mark
1a	<p>ans : 180cm^3 3 marks</p> <ul style="list-style-type: none"> •¹ uses correct radius •² substitutes into appropriate formula •³ answer 	<ul style="list-style-type: none"> •¹ radius = 3.5cm (can be in formula) •² $V = \frac{4}{3} \times \pi \times 3 \cdot 5^3$ •³ 180cm^3
b	<p>ans: 92cm^3 3 marks</p> <ul style="list-style-type: none"> •¹ uses correct multiplier •² finds amount after 1 minute •³ finds amount after 2 and 3 minutes 	<ul style="list-style-type: none"> •¹ 0.8^3 •² 144cm^3 •³ 115.2cm^3; 92cm^3
c	<p>ans : 2.8cm 3 marks</p> <ul style="list-style-type: none"> •¹ equates volume to formula •² knows how to find r^3 •³ takes cube root to answer 	<ul style="list-style-type: none"> •¹ $92 = \frac{4}{3} \times \pi \times r^3$ •² $r^3 = 92 \div (\frac{4}{3}\pi)$ •³ 2.8cm
2a	<p>ans : diagram drawn 3 marks</p> <ul style="list-style-type: none"> •¹ stem correct •² ordered leaf •³ key and n shown 	<ul style="list-style-type: none"> •¹ $\begin{array}{c cccc} 1 & 3 & 5 & 7 & 8 \\ 2 & 0 & 1 & 1 & 2 & 3 & 4 & 8 & 8 \\ 3 & 0 & 1 & 2 & 2 & 6 & 8 \\ 4 & 2 & 3 & & & & & & \end{array}$ •² $n = 20$ •³ $2 \mid 1$ represents 21
b	<p>ans: 20.5; 26; 32 3 marks</p> <ul style="list-style-type: none"> •¹ identifies lower quartile •² identifies median •³ identifies upper quartile 	<ul style="list-style-type: none"> •¹ $Q_1 = 20.5$ •² $Q_2 = 26$ •³ $Q_3 = 32$
3	<p>ans : 7.31 4 marks</p> <ul style="list-style-type: none"> •¹ knows to use cosine rule •² substitutes into formula correctly •³ evaluates and takes square root •⁴ rounds correctly 	<ul style="list-style-type: none"> •¹ evidence •² $6^2 + 8^2 - (2 \times 6 \times 8 \times \cos 61^\circ)$ •³ $7.31151.....$ •⁴ 7.31m
4a	<p>ans : $\pounds 1447.20$ 2 marks</p> <ul style="list-style-type: none"> •¹ substitutes values in formula •² evaluates to answer 	<ul style="list-style-type: none"> •¹ $I = (6700 \times 4 \times 5.4) \div 100$ •² $\pounds 1447.20$
b	<p>ans: 6% 3 marks</p> <ul style="list-style-type: none"> •¹ substitutes values in formula •² rearranges formula •³ answer 	<ul style="list-style-type: none"> •¹ $276 = (23000 \times 2 \times R) \div 100$ •² $R = 27600 \div 4600$ •³ 6%

Qu	Give one mark for each •	Illustration for awarding mark
5a	ans : 6cm 4 marks <ul style="list-style-type: none"> •¹ knows to use Pythagoras •² assembles facts in right-angled triangle •³ finds third side •⁴ states length of side of triangle 	<ul style="list-style-type: none"> •¹ evidence  •² •³ $\sqrt{(5^2 - 4^2)} = 3\text{cm}$ •⁴ 6cm
b	ans: 15.6cm ² 3 marks <ul style="list-style-type: none"> •¹ knows that angle is 60° •² uses appropriate formula for area •³ answer 	<ul style="list-style-type: none"> •¹ evidence – substituted in formula •² $0.5 \times 6 \times 6 \times \sin 60^\circ$ •³ 15.6cm²
6	ans : £378.03 2 marks <ul style="list-style-type: none"> •¹ finds total deductions •² subtracts to answer 	<ul style="list-style-type: none"> •¹ £134.97 •² £378.03
7	ans : 72° 3 marks <ul style="list-style-type: none"> •¹ uses appropriate ratios •² substitutes and re-arranges •³ answer 	<ul style="list-style-type: none"> •¹ $x/360 = 15/\pi D$ •² $x/360 = 15/(\pi \times 24)$; $x = (15 \times 360)/ 24\pi$ •³ 72°
8	ans : 110° 5 marks <ul style="list-style-type: none"> •¹ knows to use sine rule •² knows to find angle PRQ •³ rearranges to find value of sinR •⁴ knows to take inverse and finds angle •⁵ finds third angle 	<ul style="list-style-type: none"> •¹ evidence •² $5.5/\sin R = 4.5/\sin 31^\circ$ •³ $\sin R = 0.629\dots\dots$ •⁴ $R = \sin^{-1}(0.629\dots) = 39^\circ$ •⁵ $\angle PQR = 180 - (31 + 39) = 110^\circ$
9a	ans : 61.5 1 marks <ul style="list-style-type: none"> •¹ answer 	<ul style="list-style-type: none"> •¹ $369 \div 6 = 61.5$
b	<ul style="list-style-type: none"> •¹ finds Σx^2 •² substitutes into appropriate formula •³ answer 	<ul style="list-style-type: none"> •¹ $\Sigma x^2 = 23475$ •² $s = \sqrt{\frac{23475 - \frac{61.5^2}{6}}{6 - 1}}$ •³ $s = \sqrt{156.3} = 12.5$
10a	ans : =SUM(B2:D2) 1 mark <ul style="list-style-type: none"> •¹ correct formula 	<ul style="list-style-type: none"> •¹ =SUM(B2:D2)
b	ans: 1445 1 mark <ul style="list-style-type: none"> •¹ adds entries in cells 	<ul style="list-style-type: none"> •¹ 1445
11	ans : £318.60 3 marks <ul style="list-style-type: none"> •¹ correct path through flowchart •² answer •³ adds to basic wage to answer 	<ul style="list-style-type: none"> •¹ $280 \times 62\text{p}$ •² £173.60 •³ $\text{£}145 + \text{£}173.60 = \text{£}318.60$
		Total 50 marks