

National 5 Lifeskills mathematics

Question	Marking scheme	Illustration of evidence
1.	<p>ANS : £9625.93</p> <ul style="list-style-type: none"> • Know how to increase 4.5% • Know how to calculate amount • Know how to calculate interest • Answer rounded to nearest penny 	<ul style="list-style-type: none"> • 1.045 • 50000×1.045^4 • $59625.93 - 50000$ • 9625.93 <p style="text-align: right;">4 marks</p>
2.	<p>ANS:£5.20</p> <ul style="list-style-type: none"> • Calculate number of hours at basic rate • Know how to calculate basic pay • Carry out all calculations correctly 	<ul style="list-style-type: none"> • $40 + 3 \times 2$ • $239.20 \div 46$ • 5.20 <p style="text-align: right;">3 marks</p>
3.(a)	<p>ANS: 14.8</p> <ul style="list-style-type: none"> • Calculate the mean • Calculate $(x - \bar{x})^2$ • Substitute into formula • Calculate standard deviation 	<ul style="list-style-type: none"> • 27 • 289, 81, 1, 25, 484 • $\sqrt{880/4}$ • 14.8 (disregard rounding) <p style="text-align: right;">4 marks</p>
(b)	<p>ANS: The physics marks were more consistent than the maths marks (since $6.8 < 14.8$)</p> <ul style="list-style-type: none"> • Valid comment about the spread of marks 	<ul style="list-style-type: none"> • Valid comment <p style="text-align: right;">1 mark</p>
(c)	<p>ANS: $y = \frac{1}{2}x + 20$</p> <ul style="list-style-type: none"> • Find gradient • State y-intercept • State equation of line 	<ul style="list-style-type: none"> • $m = \frac{1}{2}$ (or equivalent) • $c = 20$ • $y = \frac{1}{2}x + 20$ <p style="text-align: right;">3 marks</p>
(d)	<p>ANS: 58%</p> <ul style="list-style-type: none"> • calculate physics % using equation 	<ul style="list-style-type: none"> • $y = \frac{1}{2}(76) + 20 = 58$ <p style="text-align: right;">1 mark</p>
4.	<p>ANS: £1976.40</p> <ul style="list-style-type: none"> • calculate taxable income • calculate lower rate of tax • calculate middle rate of tax • calculate total tax bill 	<ul style="list-style-type: none"> • $15425 - 5225 (= 10200)$ • $2230 \times 0.1 (= 223)$ • $(10200 - 2230) \times 0.22 (= 1753.40)$ • 1976.40 <p style="text-align: right;">4 marks</p>
5.	<p>ANS: $882\,000\text{m}^3$</p> <ul style="list-style-type: none"> • Know to subtract the volume of two cylinders • Correct substitution into formula • Correct substitution into formula • Calculate volume of aluminium • Round to 3 significant figures 	<ul style="list-style-type: none"> • evidence of subtraction • $\pi \times 41^2 \times 900$ • $\pi \times 37^2 \times 900$ • 882159 • 882000 <p style="text-align: right;">5 marks</p>
6.	<p>ANS: Accurate scale Drawing</p> <ul style="list-style-type: none"> • Bearing measured accurate ($\pm 1\text{mm}$) • Correct distance drawn • Completed scale drawing labelled 	<ul style="list-style-type: none"> • Evidence • $90 / 10 = 9\text{cm}$ • Evidence <p style="text-align: right;">3 marks</p>