

General Marking Guidance Mathematics

- If a candidate has crossed out a response to a question, the work should still be marked unless the candidate has replaced it with an alternative answer.
- Markers should apply the mark scheme consistently across all papers marked.
- Markers should mark according to the mark scheme and should apply it positively.
- The mark scheme gives guidance as to how to allocate marks.
- Where the mark scheme allows a mark for 'any (other) valid response', the marker should judge the response's merits based on the information provided in the assessment materials.
- Where the marker is unsure of how to apply the mark scheme, guidance from the Principle Examiner must be sought.
- Where the mark scheme has responses in brackets – (£) 5.00, the candidate will gain the mark whether or not the information within the brackets is present or not as long as the answer is correct.

Question	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task1 Q1a	1	Approach to converting imperial to metric for skirting board or window $2.5 \text{ inch} \times 2.54 = 6.35 \div 100 = 0.0635$ (skirting) OR $0.3048 \times 3\text{ft} = 0.9144\text{m}$ (window)	Any step first for marks	R	h
	1	Method to work out area of bedroom 1 walls for Emulsion paint minus door e.g. $(4 \times 2.3) + (3 \times 2.3) + (3 \times 2.3) + (3.25 \times 2.3) = 30.475 \text{ (m}^2\text{)}$		R	g
	1	Method to work out area of window for bedroom 1 $1600 \times 0.91444 = 1.463 \text{ (m}^2\text{)}$		R	g
	1	Total area for emulsion painting for bedroom 1 $30.475 - 0.841 - 1.463 = 28.171\text{m}^2$	Must have correct units shown	A	g
	1	Total area of emulsion paint needed e.g. $28.171 \times 2 = 56.342\text{m}^2$ total area for 2 coats	Allow rounding Allow follow through that recognises 2 coats	A	g
	1	Calculation of the number of tins needed e.g. $12 \times 10 = 120\text{m}^2$ therefore one 10l tin required		I	b
	1	Total cost to paint the bedroom £25.00		I	b
	Total Marks 7			R=3 A=2 I=2	

Functional Skills Mathematics
 Level 2 – SAMPLE PAPER
 Site Safety - CONTEXTUALISED
 Mark Scheme

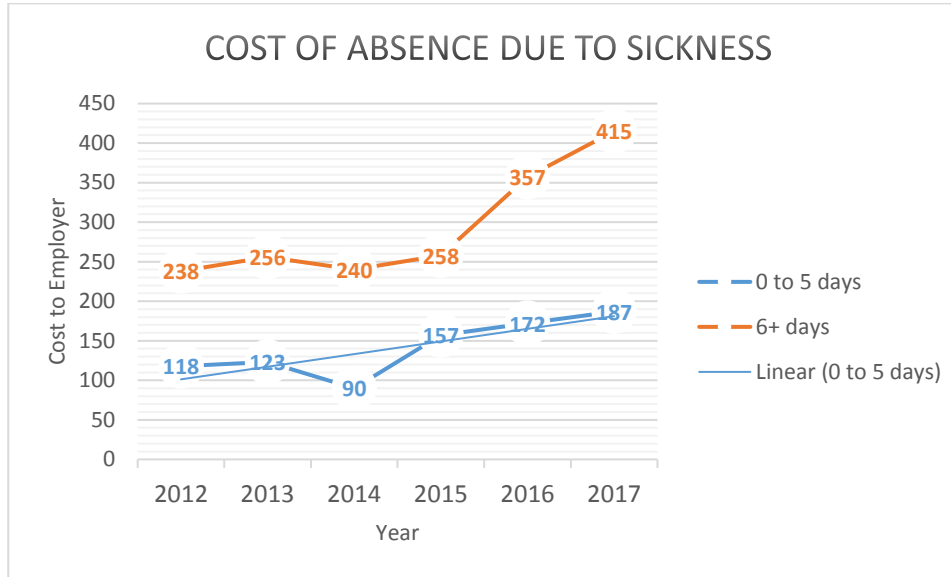
Question	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 1 Q1b	1	Method to work out the perimeter of the lounge and bedrooms for skirting board $6 + 3 + 3 + 5.25 = 17.25\text{m}$ for lounge $4 + 3 + 3 + 3.25 = 13.25\text{m}$ for bedroom 1 $2.75 + 2.75 + 3 + 2.25 = 10.75\text{m}$ for bedroom 2	Need 2 of the 3 room for mark	R	g
	1	Approach to converting mm to m or m to mm e.g. $2400 \div 1000 = 2.4\text{m}$ e.g. $3 \times 1000 = 3000\text{mm}$	Consistency in conversions.	R	g
	1	Total perimeter calculations for skirting board $17.25 + 13.25 + 10.75 = 41.25\text{m}$		A	g
	1	Number of skirting board lengths needed e.g. $41.25 \div 2.4 = 17.1875$ 18 lengths	Must be rounded	I	a
	1	Method to work out m per pack e.g. $2.4 \times 4 = 9.6\text{m}$		R	b
	1	Total number of packs if pack of 4 $18 \div 4 = 4.5 = 5$ packs Total number of packs if pack of 6 $18 \div 6 = 3$ packs		A	g
	1	Calculates cost $23.49 \times 5 = \text{£}104.37$ $34.79 \times 3 = \text{£}117.45$ $(23.49 \times 3) + 34.79 = 105.26$		A	g
	1	Valid explanation e.g. cheaper to buy 3 packs of 6		I	g
		Total Marks 8			R=3 A=3 I=2

Question	Mark Available	Acceptable Response	Comment	RAI	Coverage and range								
Task 2 Q1	1	Attempt to work out mean for all 4 companies <table border="1"> <thead> <tr> <th>H&S4U</th> <th>CCQR UK</th> <th>Construction Trainer</th> <th>Site Safe</th> </tr> </thead> <tbody> <tr> <td>4+4+7+6+4+5+9+7 +10+1+2+6+3 ÷13=</td> <td>4+5+3+2+10+9 + 9+8+3+3+6÷11 =</td> <td>5+9+3+2+2 +2+8+8+4÷9=</td> <td>10+10+5+5+2+ 1+1+10+7÷9=</td> </tr> </tbody> </table>	H&S4U	CCQR UK	Construction Trainer	Site Safe	4+4+7+6+4+5+9+7 +10+1+2+6+3 ÷13=	4+5+3+2+10+9 + 9+8+3+3+6÷11 =	5+9+3+2+2 +2+8+8+4÷9=	10+10+5+5+2+ 1+1+10+7÷9=		R	k
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	3	Correct answer for mean		Accept any three from correct Mean, Mode, Median or Range Max 3 marks	A	k							
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Correct answer for Range		A	k										
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	2	Valid choice with justification Site Safe - Because best combined average score Construction Trainer - Because narrowest range	1 mark if Site Safe or Construction Trainer seen and a further mark for justification. Allow 2 marks for valid explanation for any other choice.	l	k
	Total Marks 6			R=2 A=2 l=2	

Question	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 2 Q 2a	1	Trend line(s) drawn on chart Attempt to show at least one line of best fit	Do not accept simple continuation of graph line	I	J
Task 2 Q 2b	1	Prediction for 0 to 5 days and 6+ days e.g. 0 to 5 £415 to £420 e.g. 6+ £187 to £200		I	k
Task 2 Q 2c	1	Approach to work out fall in 6+ days absence e.g. $415 \times 21.7 \div 100 = 90.055$ e.g. $415 - 21.7\% = 90.055$ e.g. $415 \times 0.217 = 90.055$	Allow follow through Must see 21.7 used	R	d
	1	Approach to work out increase to 0 to 5 days absence e.g. $187 + 3.4\% = 6.358$ e.g. $187 + £6.36 = £193.36$	Must show rounding Must see 3.4 used	R	d
	1	Work out cost of 6+ days absence $415 - 90.055 = 324.945$ £324.95	Must show unit and rounding	A	d
	1	Works out total for 2017 and 2018 e.g. $415 + 187 = 602$ 2017 e.g. $324.95 + 193.36 = 518.31$ 2018 $602 - 518.31 = 83.64$		A	b
	1	No, the prediction is not correct, the saving is only £83.64 which is less than the £90 expected.		I	b
Task 2 Q2d	1	Reverse check on savings or estimation or another method		A	b
	Total marks 8			R=2 A=3 I=3	



Example trend line

Question	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 2 Q3a	1	Approach to problem find 2017 figures e.g. Slips, trips and falls $54 \times 70\% = 37.80 = 38$ accidents $38 + 54 = 92$	Any other method or approach. Must be rounded up	R	d
	1	Accidents caused by defective equipment $750 \times 29\% = 217.50$ $= 750 - 217.5 = 532.5$ 533 accidents	Must be rounded up	A	d
	1	Poor lifting and handling accidents $\pounds 120 \times 73\% = 89.06$ $= 30.94$ 31 accidents	Must be rounded up	A	d
	1	RIDDOR related accidents $434 \div 3 = 144.67$ $= 434 + 145 = 579$ accidents	Must be rounded up	A	d
	1	Total accidents 2016 and 2017 $54 + 750 + 120 + 434 = 1358$ $92 + 533 + 31 + 579 = 1235$	Follow through	A	a
	1	Difference between 2016 and 2017 $1358 - 1235 = 123$	Follow through	R	a
	1	Any suitable comment e.g. overall total is reduced even though 3 categories show increases	Accept any reasonable answer	I	d

Question	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 2 Q3b	1	Suitable Bar chart drawn (comparative)	Pie chart/Line Graph not suitable	l	i
	1	Suitable scale for vertical and horizontal axis drawn		l	i
	1	Title and axis labels included		l	i
	1	Two bars included per incident type - e.g.RIDDOR 2016 & 2017	Follow through	l	i
	1	Correct plotting.		l	i
	1	Total yearly comparison included in graph		l	i
	Total Marks 13			R= 2 A=4 l=7	

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Question	Mark Available	Acceptable Response	Comment	RAI	Coverage and range	
Task 2 Q4	1	Approach to the problem substitution of formula for each of the four cars e.g. monthly mileage x 12		R	e	
		Ford focus	$3000 \times 12 = 36,000$			
		mini	$1500 \times 12 = 18,000$			
		Range rover	$1200 \times 12 = 14,400$			
			Mazda	$1000 \times 12 = 12,000$		
	1	Approach to carbon footprint for Ford Focus $36000 \times 19.4 = 16628.57 \quad 42$	Accept truncated or rounding	R	e	
	1	carbon footprint for mini $18000 \times 19.4 = 6235.71 \quad 56$	Accept truncated or rounding	A	e	
	1	Carbon footprint for Range Rover $14400 \times 19.4 = 12146.09 \quad 23$	Accept truncated or rounding	A	e	
1	Carbon footprint for Mazda $12000 \times 19.4 = 5969.23 \quad 39$	Accept truncated or rounding	A	e		
1	Add 10% for each total Ford: 18291.43 Mini: 699.28 Range: 13360.70 Mazda: 6566.15	Follow through	R	d		
1	Ford Focus has biggest footprint		I	e		
Task 2 Q4b	1	Suitable check on any footprint		A	e	
	Total 8 Marks			R=3 A=4 I=1		
	50 marks			R=15 A=18 I=14		