

### **General Marking Guidance Mathematics**

- If a candidate has crossed out a response to a question, the work should still be marked unless the learner 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.

Task	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 1 Q1	1	Conversion of bath and toilet to cm. $1700 \div 10 = 170\text{cm}$ , $600 \div 10 = 60\text{cm}$ $450 \div 10 = 45\text{cm}$ , $300 \div 10 = 30\text{cm}$	Consistency in conversions. Accept truncated or rounded.	R	h
	1	Conversion of shower cubicle to cm $0.78 \times 100 = 78\text{cm}$		R	h
	1	Draw scale diagram of the bathroom on the graph paper using exact measurements of the room.	Draw to suitable scale.	I	c
	1	Scale used shown on plan.		R	c
	1	Toilet plotted correctly and on an outside wall		A	g
	1	Bath plotted on the plan correctly.	Must be plotted logically.	I	f
	1	Sink plotted on plan correctly.	Must be plotted logically.	I	f
	1	4 items plotted correctly on diagram.	Must be plotted logically.	I	f
	1	All plots must be labelled with correct sizes and item.		I	f
	1	Correct scaling used throughout.		I	c
	<b>Total 10 marks</b>				R=3 A=1 I=6

Functional Skills Mathematics  
 Level 2 Mark Scheme – Bathroom Fitters  
 Contextualised  
 Assessor Information and Guidance

Task	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 1 Q2	1	Conversion room sizes. e.g. $300 \div 100 = 3\text{m}$ e.g. $210 \div 100 = 2.1\text{m}$	Or used converted rates in metres or converting 0.5m and 0.2m to feet.	R	c
	1	Applying formula e.g. $3 \times 3 \times 2.1 = 18.9\text{m}^3$	Must have correct $\text{m}^3$	R	e
	1	Calculates air capacity for at least 1 $85 \div 18.9 = 4.497$ $63 \div 18.9 = 3.333$ $76 \div 18.9 = 4.021$	Accept rounding	A	e
	1	2 calculations completed	Accept truncated/rounding.	R	h
	1	Hydro exchange or Turbo Fan as they have an air exchange higher than 4	Accept either answer	A	h
	1	Turbo Fan as it has an air exchange of 4 and is cheaper than Hydro exchange	Answer including cost	I	h
	<b>Total Marks 6</b>				R=3 A= 2 I= 1

Functional Skills Mathematics  
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Task	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 1 Q 3a	1	Make a choice of appropriate depth. e.g. 1cm, 1.5cm, 2cm		I	g
	1	Work out volume of screed in cubic metres depending on chosen depth. e.g. $3 \times 3 \times 0.01 = 0.09\text{m}^3$ e.g. $3 \times 3 \times 0.015 = 0.135\text{m}^3$ e.g. $3 \times 3 \times 0.02 = 0.18\text{m}^3$		A	g
	1	Approach to screed required. e.g. $0.09 \div 0.006 = 15\text{kg}$ e.g. $0.135 \div 0.006 = 22.5\text{kg}$ e.g. $0.18 \div 0.006 = 30\text{kg}$		R	g
	1	Work out bags of screed required. e.g. $15 \div 5(\text{kg}) = 3$ bags or e.g. $15 \div 10(\text{kg}) = 1.5$ bags rounded up to 2 e.g. $22.5 \div 5 = 4.5$ rounded up to 5 e., $22.5 \div 10 = 2.25$ rounded up to 3	Must be rounded up to gain mark if truncated.	R	g
	1	Work out cost of bags. e.g. $3 \times \text{£}2.75 = \text{£}8.25$ e.g. $2 \times 10.50 = \text{£}21$ e.g. $5 \times \text{£}2.75 = \text{£}13.75$ e.g. $3 \times 10.50 = \text{£}31.50$	Must have units.	A	b
	1	No or yes depending on the depth chosen supported by accurate working.		I	g
Q 3b	1	Suitable check reverse or estimation to working out cost. e.g. $8.25 \div 3 = 2.75$		A	b
	<b>Total marks 7</b>			R=2 A= 3 I=2	

Functional Skills Mathematics  
 Level 2 Mark Scheme – Bathroom Fitters  
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 Assessor Information and Guidance

Task	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 1 Q4	1	Identify total accidents 897,520	Accept +- 3	I	j
	1	Work out 35% of the total accidents on pendulum tested floors from Source 2.  e.g. $897,520 \times 35 \div 100 = 314132$		R	d
	1	Understanding that $\frac{1}{4}$ is the same as 25% consistent comparisons. Works out 25% or a quarter of $314132 = 78533$		A	d
	1	Yes because only 25% of accidents occurred on low slip potential flooring No I would opt for extremely low as less incidents occurred	'No' or 'Yes' not allowed, must have a supporting comment.	I	d
	1	Justification uses numerical evidence to support.		I	d
	<b>Total 5 marks</b>				R=1 A=1 I=3

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Task	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 2 Q1a	1	Approach to finding percentage. e.g. $4600 \times 24\%$ e.g. $4600 \times 24 \div 100$ e.g. $4600 \times 0.24 =$		R	d
	1	Correct answer received by plumber. <b>£ 1104</b>		A	d
	1	Find electricians part of the total. e.g. $4600 \div 5 = \mathbf{£920}$	Must see correct amount.	R	d
	1	Understand how much is left to split between the bathroom fitters and plasterers. $4600 - 1104 - 920 = (\mathbf{£})2576$ to split		A	a
	1	Understand ratio to show how much the plasterers will receive. $2576 \div 5 = \mathbf{£515.20} \times 3$		R	b
	1	Plasterers receive. e.g. $515.20 \times 3 = \mathbf{£1545.60}$	Follow through. Award this mark and previous mark if $\mathbf{£1545.60}$ seen (must have £ sign).	I	b
Task 2 Q1b	1	Reverse check or estimation or any check appropriate to answer. e.g. $2756 + 1104 + 920 = \mathbf{£4600}$		A	b
	<b>Total 7 marks</b>			R= 3 A=3 I=1	

Task	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Task 2 Q2	1	Approach to problem work out how weeks have been worked in 6 months. 6 months with an average of 4 weeks per month = 24 weeks		R	a
	1	Calculates approximate days e.g. $24 \times 5 = 120$ days		R	b
	1	Works out number of bathrooms fitted $120 \div 3 = 40$		A	b
	1	Uses current cost per bathroom to calculate. $4600 \times 40 = \text{£}18400$		A	b
	1	Approach to working out loss. $200,000 - 184,000 = 16000$	Truncated or rounding accepted.	R	d
	1	Calculates percentage loss $16000 \div 200,000 \times 100 = 8\%$ loss		A	d
	1	Works with increase to recoup loss and earn correct amount 16% increase		A	d
	1	New price for bathroom fitting $4600 \times 16 \div 100 = \text{£}736.00$		R	b
	1	Yes I need to increase the cost of the bathroom to $\text{£}5336$		I	b
		<b>Total 9 marks</b>			R= 4 A=4 I=1

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Task	Mark Available	Acceptable Response	Comment	RAI	Coverage and range
Q3a	1	Select statistical method chosen. Mean, median or range and correct months		R	j
	1	Correct months selected	Rounded or truncated accepted.	A	j
	1	Method to work out Mean for the last 6 months. e.g. Mar – Aug $522.47 + 2015 + 849.16 + 1025.36 + 986.75 + 752.14 \div 6 = 1025.146$		A	j
	1	Method to work out Mean, range, median for the last 6 months. e.g. Mar – Aug $522.47 + 2015 + 849.16 + 1025.36 + 986.75 + 752.14 \div 6 = 1025.146$ , £1025.15 rounded up e.g. $2015 - 522.47 = \text{£}1492.53$ e.g. $849.16 + 986 \div 2 = \text{£}917.58$		I	j
	1	Answer based on statistics above. Jane is correct if the average is calculated using the range		I	j
	<b>Total</b> <b>5 marks</b>				R=1 A=2 I=2
Q3b	1	No none of the averages produce an amount over £1500 even if all 7 months are used.	Any acceptable answer.	I	k
	<b>Total</b> <b>1 mark</b>			I =1	
<b>Total marks</b>	<b>50 marks</b>			<b>R= 17 A=16</b> <b>I=17</b>	