AQA

Level 3 Certificate MATHEMATICAL STUDIES 1350/1

Paper 1 – Mark Scheme

June 2025

Version: Shadow

Marking guidance

Marks are awarded for positive achievement. Method marks (M) may be awarded even if the final answer is incorrect. Accuracy marks (A) are awarded following a correct method. Independent marks (B) do not depend on method.

M	Method mark
A	Accuracy mark
B	Independent mark
ft	Follow through
oe	Or equivalent

Q	Answer	Mark	Comments
1(a)	colour of grain	B1	circled or clearly indicated
1(b)	secondary	B1	circled or clearly indicated

Q	Answer	Mark	Comments
2(a)	$172 : 280 \times 40$ $24.6 \to 25$	M1 A1	oe proportional method accept 24–25
2(b)	$120 : 280 \times 40$ $17.1 \to 17$	M1 A1	oe accept 17–18
2(c)	Proportional to groups / representative	B1	oe

Q	Answer	Mark	Comments
3(a)	Point plotted at 2017 following trend	B1	must be at correct horizontal position
3(b)	2013 or 2015	B1	oe depending on reading
3(c)	Uses $\frac{7.8-4.2}{4.2} \times 100$ $[80\%, 90\%]$ correct working shown	M1 A1 M1	oe using their reading accept reasonable estimate

Q	Answer	Mark	Comments
4	Assumption about daily use Assumption about lifespan Multiplies correctly Final answer in hours	B1 B1 M1 A1ft	eg 2–6 hours eg 70–90 years oe weekly or yearly ft assumptions

Q	Answer	Mark	Comments
5(a)	68000×0.92^6 $\approx 41\,000$ correct rounding	M1 A1 A1	oe accept 40k–42k
5(b)	Constant rate / no repairs	B1	oe

Q	Answer	Mark	Comments
6	Mean or median calculated SD or IQR calculated Comparison of averages Comparison of spread	B1 B2 B1ft B1ft	oe allow partial for one quartile ft their values ft their values

Q	Answer	Mark	Comments
7(a)	Assumes $y = 7.5$ and $f = 0.95$	B2	must be stated
	Rearranges $A = \frac{Y}{yf}$	M1	oe
	Substitutes values	M2	oe
	$A \approx 84\,000$	A1ft	ft assumptions
	Correct units (hectares)	A1	
7(b)	Explains effect of assumption	B1	eg yield lower $\rightarrow$ area higher

Q	Answer	Mark	Comments
8(a)	$111000 - 100000 = 11000$	B1	oe
	$11000 \div 2 = 5500$	B1	
	$12570 - 5500 = 7070$	A1	
8(b)	Taxable income $= 111000 - 7070 = 103930$	M1	
	$37700 \times 0.20 = 7540$	M1	20% band
	$(103930 - 37700) \times 0.40 = 26492$	M1	40% band
	Total income tax $= 34032$	A1	
	NI: $37700 \times 0.08 = 3016$	M1	
	$(111000 - 50270) \times 0.02 = 1214.6$	M1	
	Total NI $= 4230.6$	A1	
	Net income $= 72737.4$	A1	
	$\frac{2}{3} \times 111000 = 74000$	M1	
	$72737.4 < 74000$ so statement correct	A1	conclusion

Q	Answer	Mark	Comments
9(a)	Cumulative frequencies:	M2	
	at 70: 14		
	at 75: $14 + 22 = 36$		
	at 80: $36 + 31 = 67$		
	at 90: $67 + 38 = 105$		
	at 110: $105 + 15 = 120$		
	Correct plotting and smooth curve	B2	increasing curve
9(b)	Identifies class $75 < t \leq 80$	M1	
	Proportion through class $\frac{78-75}{5} = 0.6$	M1	
	$0.6 \times 31 = 18.6$	M1	
	Estimated CF $= 36 + 18.6 = 54.6$	A1	
	$\frac{54.6}{120} \times 100 \approx 45.5\%$	A1	
	Correct interpretation	A1	accept 45–46%

Q	Answer	Mark	Comments
10	Monthly rate $= \frac{19.20}{4800} = 0.004$	M1	oe
	Uses $(1 + r)^{12} - 1$	M1	
	$(1.004)^{12} - 1 \approx 0.04908$	A1	
	AER $\approx 4.91\%$	A1	accept 4.8–5.0%

END OF MARK SCHEME