HSC Mathematics General 2 Specimen Examination Marking Guidelines

Section I

Multiple-choice Answer Key

Question	Answer
1	B
2	C
3	C
4	D
5	B
6	A
7	A
8	D
9	B
10	C
11	C
12	A
13	A
14	B
15	B
16	C
17	A
18	D
19	C
20	B
21	D
22	D
23	D
24	C
25	A

Section II

Question 26 (a) (i)

Criteria	Marks
• Provides the correct classification of the type of data	1

Question 26 (a) (ii)

Criteria	Marks
• Provides a suitable question that is relevant to phone usage and requires a quantitative response	1

Question 26 (a) (iii)

Criteria	Marks
• Provides how a representative stratified sample could be obtained	1

Question 26 (b)

Criteria	Marks
• Provides the correct area of the remaining shape OR provides a correct numerical expression	3
• Provides the correct areas of the semicircle and the trapezium OR provides correct numerical expressions for the areas of the semicircle and the trapezium	2
• Provides the correct area of the semicircle or the trapezium OR provides a correct numerical expression for either	1

Question 26 (c)

Criteria	Marks
• Provides a correct approximation of the time taken	2
• Shows some progress towards obtaining a correct approximation of the time taken	1

Question 26 (d)

Criteria	Marks
• Provides the correct day and time	2
• Provides the correct time in Greenwich (midnight at the end of Thursday/beginning of Friday) OR indicates that Santiago is 11 hours behind Perth	1

Question 26 (e)

Criteria	Marks
• Provides the correct total amount OR provides a correct numerical expression	2
• Provides the correct amount for the stamp duty OR provides a correct numerical expression	1

Question 26 (f)

Criteria	Marks
• Provides the correct total amount OR provides a correct numerical expression	3
• Provides two of the three charges OR provides correct numerical expressions	2
• Provides one of the three charges OR provides a correct numerical expression	1

Question 27 (a)

Criteria	Marks
• Provides the correct perimeter of the sector	2
• Provides a correct numerical expression for the perimeter of the sector	1

Question 27 (b)

Criteria	Marks
• Provides the correct amount of interest OR provides correct numerical expressions in the steps of the calculation	2
• Indicates the use of the correct present value interest factor in a correct approach to calculating the monthly repayment	1

Question 27 (c) (i)

Criteria	Marks
• Provides the correct interquartile range	1

Question 27 (c) (ii)

Criteria	Marks
• Provides appropriate justification, using calculations, that 51 is not an outlier	2
• Correctly identifies the calculation needed to determine if a particular data value is an outlier	1

Question 27 (d)

Criteria	Marks
• Provides a correct explanation of how the methods of payment differ	2
• Provides some information relevant to the method(s) of payment	1

Question 27 (e) (i)

Criteria	Marks
• Provides the correct z-score OR provides a correct numerical expression	1

Question 27 (e) (ii)

Criteria	Marks
• Provides the correct mark	1

Question 27 (e) (iii)

Criteria	Marks
• Provides the correct percentage of the marks	2
• Provides a clear indication of progress towards the correct answer, eg $\frac{1}{2} \times 68\%$, $\frac{1}{2} \times 95\%$	1

Question 27 (f)

Criteria	Marks
• Provides a correct calculation for the relevant area	2
• Uses the scale given to provide appropriate approximations for the actual base length and/or perpendicular height of the triangular shaded area OR • Shows a correct calculation for the area of a triangle with incorrect dimension(s)	1

Question 28 (a)

Criteria	Marks
• Provides the value of each pronumeral, ie $y = 3$, $x = 2\frac{1}{2}$ (or equivalent)	2
• Provides the value of either x or y, ie $x = 2\frac{1}{2}$ (or equivalent) or $y = 3$	1

Question 28 (b) (i)

Criteria	Marks
• Provides a correct numerical expression for the number of different numberplates	1

Question 28 (b) (ii)

Criteria	Marks
• Provides the correct probability OR provides a correct numerical expression OR • Provides the correct probability from the possible number of numberplates obtained in (i)	2
• Provides the correct possible number of numberplates with 'JO' in the middle OR provides a correct numerical expression	1

Question 28 (c)

Criteria	Marks
• Provides the correct number of kilolitres	2
• Indicates the use of $V = Ah$, with consistent units	1

Question 28 (d)

Criteria	Marks
• Provides the value –$0.90 OR provides another correct expression – numerical or in words, eg 'a loss of 90 cents'	2
• Shows the correct use of signs (including for the entry fee) in setting up an appropriate calculation	1

Question 28 (e)

Criteria	Marks
• Provides descriptions of three essential steps to conduct a plane table radial survey	3
• Provides descriptions of two essential steps to conduct a plane table radial survey	2
• Provides a description of one essential step to conduct a plane table radial survey	1

Question 28 (f)

Criteria	Marks
• Provides the correct value of d OR provides a correct numerical expression for d	3
• Provides correct equal ratios of pairs of sides within the similar triangles	2
• Indicates identification of the pair of similar triangles within the diagram	1

Question 29 (a)

Criteria	Marks
• Provides the correct answer ($x = 2\frac{2}{5}$ or equivalent)	3
• Provides the statement $35x = 84$	2
• Provides the statement $5x + 36 = 40x - 48$ or equivalent	1

Question 29 (b) (i)

Criteria	Marks
• Provides the correct answer with correct units OR provides a correct numerical expression with correct units	3
• Attempts to find the volume of the tank by multiplying the perpendicular height by the area of the base obtained (ie uses the $V = Ah$ approach)	2
• Provides a correct numerical expression for the area of the base of the tank	1

Question 29 (b) (ii)

Criteria	Marks
• Provides the correct amount of water lost	2
• Provides a correct numerical expression for the amount of water remaining in the tank	1

Question 29 (c) (i)

Criteria	Marks
• Provides the correct tax payable	1

Question 29 (c) (ii)

Criteria	Marks
• Provides a correct numerical expression for the gradient of the relevant section	1

Question 29 (c) (iii)

Criteria	Marks
• Provides the correct answer	1

Question 29 (c) (iv)

Criteria	Marks
• Provides a correct equation (expressed with pronumerals or in words)	2
• Shows progress towards the expression of a correct equation	1

Question 29 (d)

Criteria	Marks
• Identifies at least two trends in the graph	2
• Provides some information relevant to trend(s) in the graph	1

Question 30 (a) (i)

Criteria	Marks
• Plots and labels the relevant point correctly on the graph	1

Question 30 (a) (ii) (1)

Criteria	Marks
• Provides the correct value of y	1

Question 30 (a) (ii) (2)

Criteria	Marks
• Provides a correct drawing of the line (indicates and joins two points on the line)	2
• Indicates one point on the line, eg (60, 57.4), (40, 41.4)	1

Question 30 (a) (iii)

Criteria	Marks
• Provides a statement indicating that the line represents an equal life expectancy at birth for women and men	1

Question 30 (a) (iv)

Criteria	Marks
• Provides a statement indicating that for most of the countries represented, the life expectancy for women is higher than that for men	1

Question 30 (a) (v)

Criteria	Marks
• Provides a statement indicating that the life expectancy for women is higher for Country *B* than for Country *A*, while the life expectancy for men in the two countries is the same	1

Question 30 (a) (vi)

Criteria	Marks
• Provides descriptions of two possible reasons for the differences in life expectancy	2
• Provides a description of one possible reason for the differences in life expectancy	1

Question 30 (b) (i)

Criteria	Marks
• Provides the correct maximum amount that Xiang's bank would have approved for her to borrow	4
• Shows substantial progress towards obtaining the correct solution, eg a suitable calculation for obtaining the amount in excess of $300 000 that Xiang's bank would have approved	3
• Shows some progress towards obtaining the correct solution, eg links the maximum allowable loan repayment to selected value(s) from the spreadsheet for use in obtaining the solution	2
• Provides the correct value for the maximum allowable loan repayment	1

Question 30 (b) (ii)

Criteria	Marks
• Identifies two relevant differences • Provides an explanation for each difference with reference to rates and/or repayments	2
• Identifies one relevant difference with at least a limited explanation for the difference	1