Singapore Mathematical Olympiad 2012 Errata

Junior Section 2012

Page 2: Q5, line 3: DE/AE. (Slash in DE/AE missing.)

Page 3: Q8, line 1: $\{x\} = x - \lfloor x \rfloor$. (Braces in $\{x\}$ missing.)

Page 4: Q9, line 2: $y = \dfrac{|x - |x|\,|}{x}$. (Absolute value sign misprinted.)

Page 9: Q1, line 3: $4[(b - 1/2)^2 + 3/4] \geq 3$. (Slash in $(b - 1/2)^2$ and $3/4$ missing.)

Q2, line 3: $5 \mid (n^2 + 1)$, $2 \mid n^{2010}$, $10 \mid (n^2 + 1)$. (| missing in $5 \mid (n^2 + 1)$, $2 \mid n^{2010}$ and $10 \mid (n^2 + 1)$.)

Q2, line 4: $2 \mid (n^2 + 1)$, $5 \mid n^{2010}$. (| missing in $2 \mid (n^2 + 1)$ and $5 \mid n^{2010}$.)

Q4, line 2: $\dfrac{2(1 - 1/\sqrt{2})}{1}$. (Slash in $1/\sqrt{2}$ missing.)

Page 11: Q9, Answer (D). (Answer misprinted as (C).)

Q9, line 1: $y = \dfrac{|x - |x|\,|}{x} = \dfrac{|x - x|}{x} = \dfrac{|0|}{x} = 0$. (Absolute sign misprinted.)

Q9, line 2: $y = \dfrac{|x - |x|\,|}{x} = \dfrac{|x - (-x)|}{x} = \dfrac{|2x|}{x} = \dfrac{-2x}{x} = -2$. (Absolute sign misprinted.)

Q12, line 1: $(x^2 - 1) \mid 120$. (| misprinted in $(x^2 - 1) \mid 120$.)

Page 12: Q16, line 3: $(mn - 217) \mid 8$. (| missing in $(mn - 217) \mid 8$.)

Page 13: Q17, line 1: $x = \lfloor x \rfloor + \{x\}$, $100 \leq (\lfloor x \rfloor + \{x\})^2 - \lfloor x \rfloor^2 = 2\lfloor x \rfloor\{x\} + \{x\}^2 < 2\lfloor x \rfloor + 1$. (Braces in $\{x\}$ missing.)

Q20, line 5: $(n - 1) \mid 9$. (| misprinted in $(n - 1) \mid 9$.)

Page 14: Q24, line 1: $(a + b) \mid 9a$. (| missing in $(a + b) \mid 9a$.)

Q24, line 2: $(a + b) \mid a$. (| missing in $(a + b) \mid a$.)

Q24, line 3: $3 \mid (a + b)$, $(a + b) \mid 3a$. (| missing in $3 \mid (a + b)$ and $(a + b) \mid 3a$.)

Page 15: Q27, line 1: $\lambda = EG = 3/4$. (Slash in $3/4$ missing.)

Singapore Mathematical Olympiad 2012 Errata

Senior Section 2012

Page 22: Q3, line 1: $T = \{2, 3, 5, 6, 7, 8, 10, 11, \ldots\}$. (Braces and dots missing.)

Page 24: Q13, line 1: $S = \{1, 2, \ldots, 10\}$. (Braces, commas and dots missing.)

Page 25: Q22, line 1: $\{1, 2, 3, 4, 5, 6\}$. (Braces missing.)

Page 25: Q25, line 1: $S = \{1, 2, 3, \ldots, 19, 20\}$. (Braces missing.)

Page 26: Q29, line 2: $f(x, y, z)$. (Commas missing.)

Page 26: Q30, line 2: $k = 0, 1, 2, \ldots, 34$. (Commas and dots missing.)

Page 29: Q8, line 5: $[2(k-1)\pi, (2k-1)\pi]$, ..., $((2k-1)\pi, 2k\pi)$. (Commas missing.)

Page 29: Q10, lines 2,3 and 4: $1000 \mid 12^n(12^{m-n} - 1)$, $8 \mid 12^n$ and $125 \mid 12^{m-n} - 1$. ($\mid$ missing in the three expressions.)

Page 30: Q12, lines 5 and 8: $3 \mid y$ or $3 \mid y + 2$ and $3 \mid y + 2$. ($\mid$ missing in the two expressions.)

Page 30: Q13, line 4: $|\mathcal{F}| \leq \dfrac{2^{10}}{2} = 512$. ($|$ $|$ missing from $|\mathcal{F}|$.)

Page 33: Q25, lines 2 and 3: $S_0 = \{3, 6, \ldots, 18\}$, $S_1 = \{1, 4, \ldots, 19\}$ and $S_2 = \{2, 5, \ldots, 20\}$. (Braces missing in the three expressions.)

Page 34: Q30, line 3: $k = 0, 1, 2, \ldots, n$. (Commas and dots missing.)

Page 35: Q32, lines 6 and 7: Thus $0 \leq e \leq 16/5$ and $a = b = c = d = 6/5$, we have $e = 16/5$. (Slash in $16/5$ and $6/5$ missing.)

Page 35: Q33, lines 3 to 9: $F(a, b, c)$, $F(a, b, 9)$, $F(a, 8, 9)$ and $F(1, 8, 9) = 10.5$. (Commas in all these expressions and decimal point in the last expression missing.)

Page 36: Q35, line 3: $(0, 1, 1, 2, \ldots)$ and $(n + f(n))_{n=1}^{\infty} = (2, 3, 5, 6, \ldots)$. (Commas and dots missing.)

Singapore Mathematical Olympiad 2012 Errata

Senior Section (Round 2) 2012

Page 37: Q4, lines 1,3 and 4: $a_1, a_2, \ldots, a_n, a_{n+1}$, $k = 1, 2, \ldots, n$ and $k = 0, 1, \ldots, n+1$. (Dots missing.)

Singapore Mathematical Olympiad 2012 Errata

Open Section 2012

Page 42: Q16, line 2: $x_1, x_2, x_3, \ldots, x_k$. (Commas missing.)

Page 43: Q24, line 2: $|\cdots|||x_1 - x_2| - x_3| - x_4|\cdots - x_{2014}|$. (Absolute value sign misprinted.)

Page 43: Q24, line 3: $\{1, 2, 3, 4, \cdots, 2014\}$. (Braces misprinted.)