Singapore Mathematical Olympiads 1995-2004 Errata

Pg 2 Q11 Line 1 …the two hands "of" a certain standard …, "of" is missing.

Pg 12 Q5 Line 1 "unit digit" should be "units digit".

Pg 13 Q16 Line 1 "unit digit" should be "units digit".

Pg 25 Q24 Line 2 "5-digits" should be "5-digit".

Pg 29 Q2 Line 1 …he needs "an" average score "of " 90… should be "an" instead of "the", "of" is needed here.

Pg 29 Q2 Line 3 …remaining 4 tests "he must get" in order to… "he must get" is missing.

Pg 30 Q13 Line 2 … 10 minutes had "he" increased …, should be "he" instead of "be".

Pg 30 Q14 Line 2 Each letter of their "names" can be associated … their current "ages". Both 's' missing.

Pg 30 Q17 Line 2 … until he reaches the "little" finger… should be "little" instead of "last".

Pg 38 Q16 Line 3 should be $\frac{360\times 1000}{3600}\times 5 = 500$ (missing a "$\times 5$").

Pg 38 Q17 Line 2 should be a '*u*' instead of 'u' (i.e. italic).

Pg 40 Q30 Line 3 should be a '*y*' instead of 'y' (i.e. italic).

Pg 42 Q8 Line 4 should be $\angle MEN = 360° - 75° - 75° - 60° = 150°$ ($360°$ instead of $180°$).

Pg 42 Q14 Line 2 should be "b = 1897645" instead of "b = 1897654".
Line 3 should be 1942649.5 instead of 192649.5 (missing a '4').

Pg 45 Q6 both *OSR* should be *ORS*.

Pg 51 Q12 Line 3 2491 – 1596 = 895, should be 895 instead of 795.

Pg 80 Q18 Answer should be B, here is the correct solution:
Note that

$$\begin{aligned} n^4 + 2n^3 + 2n^2 + 2n + 1 &= n^4 + 2n^3 + n^2 + n^2 + 2n + 1 \\ &= n^2(n^2 + 2n + 1) + (n^2 + 2n + 1) \\ &= (n^2 + 1)(n^2 + 2n + 1) \\ &= (n^2 + 1)(n + 1)^2. \end{aligned}$$

There are 2 cases to consider:
Case 1: $n = -1$. Then the expression is 0, which is a square.
Case 2: $n \neq -1$. Then $n^2 + 1$ must be a square. … (continue the original solution)

Pg 81 Q21 *Second Solution:* (easier solution)
Let h be the altitude of ΔAOF from F to AO, then we have

$$h = \frac{1}{2}EO = \frac{1}{2}\left(\frac{1}{2}CO\right) = \frac{1}{2}\left(\frac{1}{2}\left(\frac{1}{2}OA\right)\right) = 1.$$

Hence

$$[AOF] = \frac{1}{2}\times OA \times h = \frac{1}{2}\times 8 \times 1 = 4.$$

Pg 83 Q28 Line 2 "*a* factor" should be "a factor" (i.e. no italic).

Pg 134 Q12 Line 1 “units digits” should be “units digit”.

Pg 135 Q19 Line 2 all the 3998 should be 3992.

Pg 136 Q26 Line 2 the word “book” should be “album”.

Pg 138 Q1 Line 1 there should be a “.” after “ $x = 30$ ”.

Pg 138 Q8 Line 1 “shaded triangle” should be “shaded triangles”.

Pg 139 Q13 Line 2 it is better to use “the 999^{th} positive even number”.

Pg 141 Q26 Line 4 “These two inequality implies” should be “These two inequalities imply”.

Pg 141 Q26 Second last line “acute triangle” should be “acute triangles”.

Pg 145 Q15 Line 1 it is better to write “Let $n = 10a + b$ where *b* is a 1-digit number.” since *a* need not be a 1-digit number.

Pg146 Q20 Last line should be “ $x = 7 \cdot 2 + 3 \cdot 4/2 + 4 \cdot 3/2 = 26$”.

Pg 147 Q30 Last line “no of them” should be “none of them”.

Pg 152 Q30 Line 1 missing “13”, i.e., …,10,11,12,13,14,15.

Pg 156 Q12 Last line “a^2 = 153 or 43” should be “a^2 = 153 or 41”.

Pg 157 Q21 Line 1 should be add in “where *O* is the centre of the circle” after “*OC* = *r*”.

Pg 158 Q23 Line 2 it is better to write “Since $\gcd(a,b) = 1$…” than “Since *a* and *b* do not have factors in common …”.

Pg 159 Q29 Line 3 highest power of 4 (the word “power” is missing).

Pg 163 Q19 Line 2 $q = a^{a_2}5^{b_2}$ should be $q = 2^{a_2}5^{b_2}$, $r = a^{a_3}5^{b_3}$ should be, $r = 2^{a_3}5^{b_3}$.

Pg 163 Q20 Line 1 First note that *x* must be … (the word “that” is missing).

Pg 165 Q30 Line 6 the word “any where” should be “anywhere”.

Pg 165 Q30 Second last line the word “number s” should be “numbers”.

Pg 174 Q10 Line 1 it is better to write “Let $n = 10x + y$ where *y* is a 1-digit number.” since *x* need not be a 1-digit number.