

1. Text, Problem 2.1.20 (that is, Problem 20 from Section 2.1, on p. 53). Neglect terms of order \mathbf{u}^2 and higher, where \mathbf{u} denotes the unit round-off.
2. Text, Problem 2.1.23
3. Text, Problem 2.1.33
4. Text, Problem 2.1.34
5. Text, Problem 2.2.8. Also, illustrate the difficulty and its resolution on the equation $x^2 - 40x + 1 = 0$ using 5-digit base-10 arithmetic. Then give an algorithm (pseudo-code) to accurately find the roots of $ax^2 + bx + c = 0$, assuming the discriminant $b^2 - 4ac$ is positive.
6. Text, Problem 2.2.9 (b)(c)(d)(e). In each case, give an example in three-digit decimal arithmetic showing your new formula giving higher accuracy.
7. Text, Problem 2.2.15