

A Mathematical Duel

Imagine you live in Italy in the 16th century. Then find a root of each of the following cubic equations:

1. (a) $x^3 = 12x + 34$
(b) $x^3 = 6x + 6$
(c) $x^3 = 15x + 24$
(d) $x^3 = 3x + 10$
(e) $x^3 = 15x + 4$
2. (a) $x^3 + 6x = 20$
(b) $x^3 + 3x = 2$
(c) $x^3 + 9x = 6$
(d) $x^3 + 12x = 1$
(e) $x^3 + x = 1$
3. (a) $x^3 - x^2 = 0$
(b) $x^3 - 2x^2 - 2x - 3 = 0$
(c) $x^3 + x^2 = 2$
(d) $2x^3 + 7x^2 - 10x + 3 = 0$
(e) $3x^3 - 7x^2 + 8x - 2 = 0$