

Homework: Zeros of Polynomial Functions

In Problems 1-18, find the zeros of the polynomial function

1. $f(x) = x^3 + 2x^2 - 5x - 6$	2. $f(x) = 10x^3 - 27x^2 - 55x + 12$
3. $f(x) = 80x^3 - 478x^2 - 13x + 6$	4. $f(x) = x^3 - x^2 - 9x + 14$
5. $f(x) = x^3 + 14x^2 + 41x + 4$	6. $f(x) = x^3 + 9x - 10$
7. $f(x) = 3x^3 + 17x^2 - 12x + 2$	8. $f(x) = x^3 + 8x^2 - 12x - 96$
9. $f(x) = x^3 - 5x^2 - 40x + 200$	10. $f(x) = 3x^3 - x^2 - 15x + 5$
11. $f(x) = x^3 + 2x^2 + 4x + 8$	12. $f(x) = x^3 - 6x^2 + 8x - 48$
13. $f(x) = x^3 + 5x^2 + 20x + 100$	14. $f(x) = x^4 - 5x^3 - 5x^2 - 45x - 126$
15. $f(x) = x^5 - 7x^4 + 19x^3 - 25x^2 + 16x - 4$	16. $f(x) = x^4 - 20x^3 + 150x^2 - 500x + 625$
17. $f(x) = x^4 + 2x^3 + 17x^2 + 32x + 16$	18. $f(x) = x^4 - 6x^3 - 23x^2 + 192x - 288$

In Problems 19-20, find an n th-degree polynomial function with real coefficient satisfying the given conditions

19. $n = 3$, 5 and $3i$	20. $n = 3$, -1 and $4i$
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