

Homework: Zeros of Polynomial Functions - Key

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

1. $x = -3, -1, 2$	2. $x = 4, \frac{1}{5}, \frac{-3}{2}$
3. $x = 6, \frac{1}{10}, \frac{-1}{8}$	4. $x = 2, \frac{-1 \pm \sqrt{29}}{2}$
5. $x = -4, -5 \pm 2\sqrt{6}$	6. $x = 1, \frac{-1}{2} \pm \frac{\sqrt{39}}{2}i$
7. $x = \frac{1}{3}, -3 \pm \sqrt{11}$	8. $x = -8, \pm 2\sqrt{3}$
9. $x = 5, \pm 2\sqrt{10}$	10. $x = \frac{1}{3}, \pm \sqrt{5}$
11. $x = -2, \pm 2i$	12. $x = 6, \pm 2\sqrt{2}i$
13. $x = -5, \pm 2\sqrt{5}i$	14. $x = 7, -2, \pm 3i$
15. $x = 1, 1, 1, 2, 2$	16. $x = 5, 5, 5, 5$
17. $x = -1, -1, \pm 4i$	18. $x = 3, 3, \pm 4\sqrt{2}i$

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

19. $x^3 - 5x^2 + 9x - 45$	20. $x^3 + x^2 + 16x + 16$
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