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30. 61

34.  $-\frac{1}{5} + \frac{2}{5}i$

38.  $\frac{26}{29} + \frac{7}{29}i$

42. (a)

46.  $x = -\frac{1}{6} \pm \frac{\sqrt{23}}{6}i$

50. length=14, midpoint (-3,0)

1. Write the polynomial in standard form, and identify the zeros of the function and the x-intercepts of its graph.

$$f(x) = x(x-1)(x-1-i)(x-1+i)$$

2. Write a polynomial function of minimum degree in standard form with real coefficients whose zeros include those listed.

$$-2 \quad \text{and} \quad 1+2i$$

3. Write a polynomial function of minimum degree in standard form with real coefficients whose zeros and their multiplicities include those zeros.

-1(multiplicity 2),  $-2-i$ (multiplicity 1)