

## Writing Polynomial Functions

Date \_\_\_\_\_ Period \_\_\_\_\_

**Write a polynomial function of least degree with integral coefficients that has the given zeros.**1)  $-3, 5, 3$ 2)  $-2, 2, -1$ 3)  $0, 5, 2$ 4)  $-3, -5, 3, -1$

5)  $1, -4, 0, -1$

6)  $-5, 2 + i$

7)  $4, -5, -2$

8)  $3, 2\sqrt{2}$

9)  $-1, 2i$

10)  $1, \sqrt{6}$

## Answers to Writing Polynomial Functions

- 1)  $f(x) = x^3 - 5x^2 - 9x + 45$       2)  $f(x) = x^3 + x^2 - 4x - 4$       3)  $f(x) = x^3 - 7x^2 + 10x$   
4)  $f(x) = x^4 + 6x^3 - 4x^2 - 54x - 45$       5)  $f(x) = x^4 + 4x^3 - x^2 - 4x$   
6)  $f(x) = x^3 + x^2 - 15x + 25$       7)  $f(x) = x^3 + 3x^2 - 18x - 40$       8)  $f(x) = x^3 - 3x^2 - 8x + 24$   
9)  $f(x) = x^3 + x^2 + 4x + 4$       10)  $f(x) = x^3 - x^2 - 6x + 6$