

## Practice

## Polynomial Functions

State the degree and leading coefficient of each polynomial.

1.  $6a^4 + a^3 - 2a$

2.  $3p^2 - 7p^5 - 2p^3 + 5$

Write a polynomial equation of least degree for each set of roots.

3. 3, -0.5, 1

4. 3, 3, 1, 1, -2

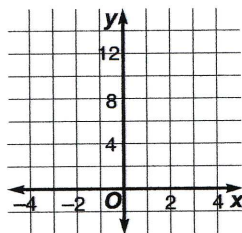
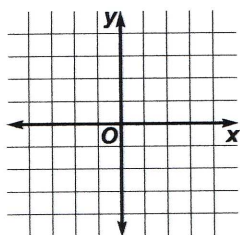
5.  $\pm 2i$ , 3, -3

6.  $-1$ ,  $3 \pm i$ ,  $2 \pm 3i$

State the number of complex roots of each equation. Then find the roots and graph the related function.

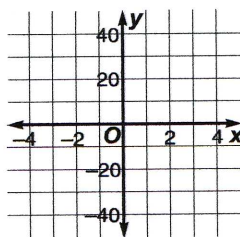
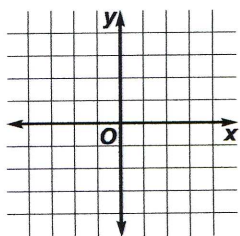
7.  $3x - 5 = 0$

8.  $x^2 + 4 = 0$



9.  $c^2 + 2c + 1 = 0$

10.  $x^3 + 2x^2 - 15x = 0$



11. **Real Estate** A developer wants to build homes on a rectangular plot of land 4 kilometers long and 3 kilometers wide. In this part of the city, regulations require a greenbelt of uniform width along two adjacent sides. The greenbelt must be 10 times the area of the development. Find the width of the greenbelt.