

Review polys ops, parts, min mix xint, roots, factors, intersect, eb, eval, remainder th

**Simplify each expression and write in standard form.**

1)  $-3v + 3 + 7 + 4v$

2)  $6a + 10 - 2$

3)  $(r^2 - 3r) + (r^2 - 2r + r^3 - r^4)$

4)  $(6m^3 - 4m - 5m^2) - (8m^2 - 3m - 5m^3)$

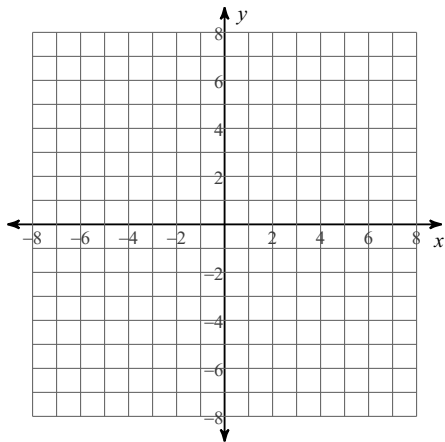
5)  $(2m + 6)(-m + 1)$

**Write the polynomial in standard form. Identify the degree, leading coefficient, and constant.**

6)  $-10v - v^4 - 10v^3 + 7$

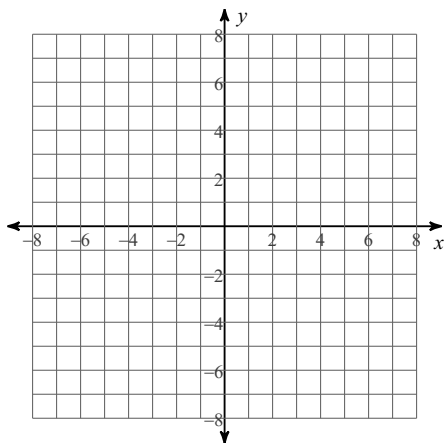
Sketch the graph of each function. Identify the x-intercept/s and minimum/s.

7)  $f(x) = x^2 - 6x + 5$



Sketch the graph of each function. Identify the maximum/s and end behavior.

8)  $f(x) = x^3 - 4x^2 + 4$



Provide all x-intercepts. One of the factors is given.

9)  $f(x) = 3x^3 + 4x^2 - 17x - 6; x + 3$

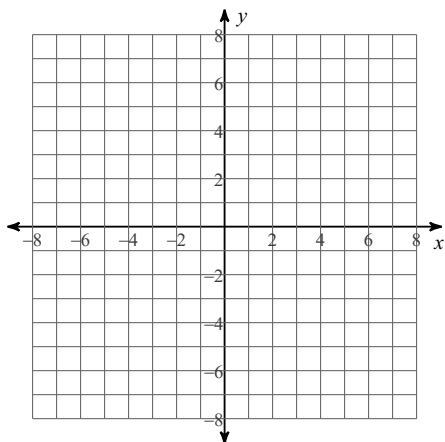
Evaluate each function at the given value.

10)  $f(x) = x^2 + 6x + 6$  at  $x = -5$

11)  $f(x) = -3x^2 + 7x + 3$  at  $x = 3$

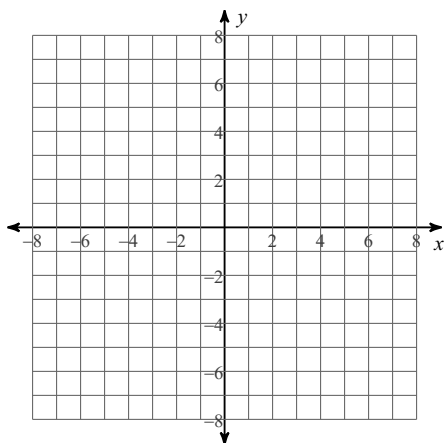
Sketch the graph of each function and the graph of  $f(x) = -x^2 + 6$ . Find the intersection/s of the graphs.

12)  $f(x) = x^4 + x^3 - 3x^2 + 4$



Sketch the graph of each function and identify the x-intercepts.

13)  $f(x) = -x^3 + 7x^2 - 16x + 12$

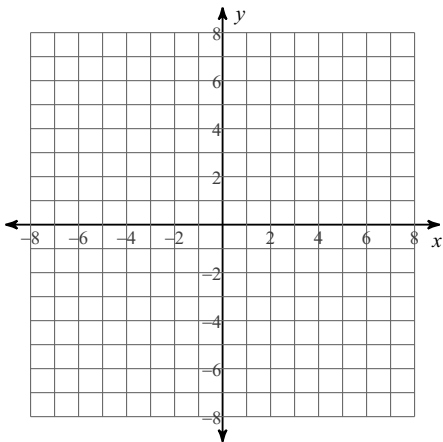


Write a polynomial function in standard form that has the given zeros.

14)  $-\frac{2}{3}, -4, 5$

Sketch the graph and identify the root that has a multiplicity of more than one.

15)  $f(x) = -x^2$



Divide and then determine if ( ) is a factor.

16)  $(-5m^2 - 48m - 26) \div (m + 9)$

17)  $(3k^2 + 12k + 9) \div (k + 3)$