

Writing Polynomial Functions HW

A polynomial function with rational coefficients has the follow zeros. Find all additional zeros.

1) $-4, -\frac{3}{2}, -\frac{1}{3}, 2-i$

2) $1-2i, 3+\sqrt{5}$

Write a polynomial function of least degree with integral coefficients that has the given zeros.

3) $1+\sqrt{6}$ mult. 2

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

5) $3, -3+\sqrt{7}$

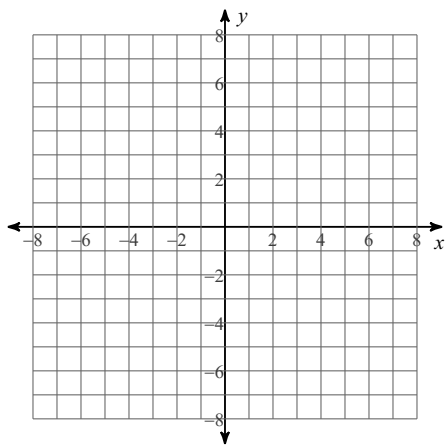
6) $-3, 2, 0$

7) $-2, 2 - 3i$

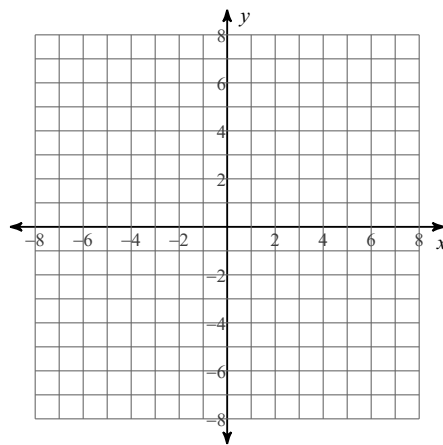
8) $-\frac{1}{2}$ mult. 3

Sketch the graph of each function. Sketch each real zero.

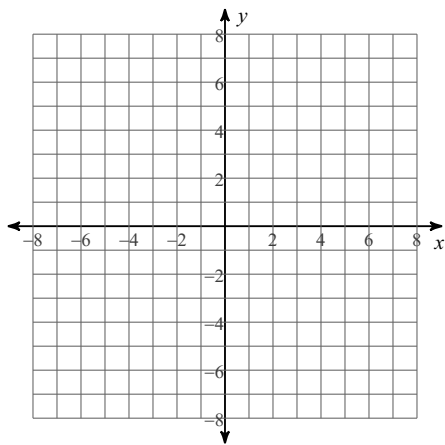
9) $f(x) = -x^2 - 4x$



10) $f(x) = x^3 - x^2$



11) $f(x) = x^4 - 4x^2$



Writing Polynomial Functions HW

A polynomial function with rational coefficients has the follow zeros. Find all additional zeros.

1) $-4, -\frac{3}{2}, -\frac{1}{3}, 2-i$

$2+i$

2) $1-2i, 3+\sqrt{5}$

$1+2i, 3-\sqrt{5}$

Write a polynomial function of least degree with integral coefficients that has the given zeros.

3) $1+\sqrt{6}$ mult. 2

$f(x) = x^4 - 4x^3 - 6x^2 + 20x + 25$

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

$f(x) = 8x^3 - 46x^2 + 81x - 45$

5) $3, -3+\sqrt{7}$

$f(x) = x^3 + 3x^2 - 16x - 6$

6) $-3, 2, 0$

$f(x) = x^3 + x^2 - 6x$

7) $-2, 2 - 3i$

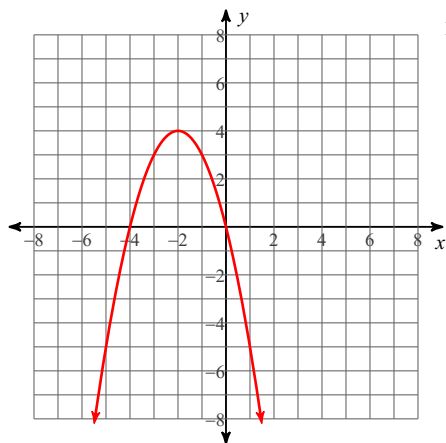
$$f(x) = x^3 - 2x^2 + 5x + 26$$

8) $-\frac{1}{2}$ mult. 3

$$f(x) = 8x^3 + 12x^2 + 6x + 1$$

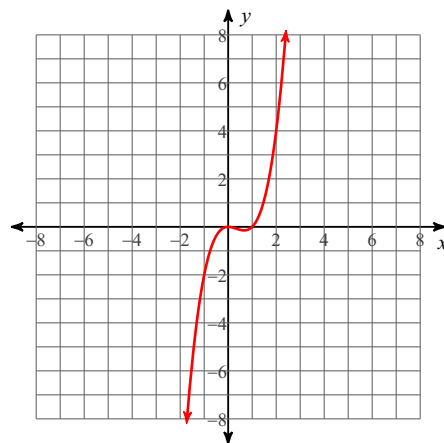
Sketch the graph of each function. Sketch each real zero.

9) $f(x) = -x^2 - 4x$



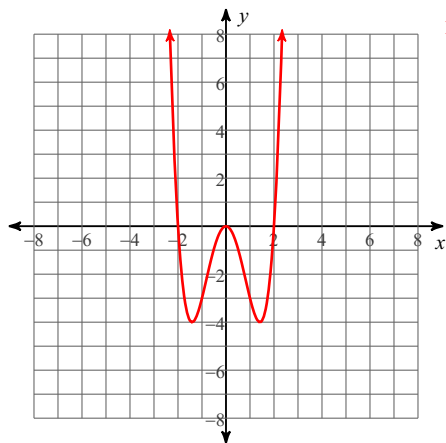
Real Zeros: $-4, 0$

10) $f(x) = x^3 - x^2$



Real Zeros: $0, 1$

11) $f(x) = x^4 - 4x^2$



Real Zeros: $-2, 0, 2$