Write polynomial functions

Name_____

Date_____

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

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

2) $-3,\ \ 3,\ \ 3 - 2i$

3) $4,\ \ 2 - 3i$

4) $2,\ \ -3,\ \ 1 + 2\sqrt{2}$

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

6) $3,\ \ -2 - 2i$

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

7) $3,\ 2,\ -\frac{4}{3},\ \frac{5}{4}$

8) $3,\ -1+\sqrt{3}$

9) $1,\ -i$

10) $-1,\ -2+\sqrt{7}$

11) $2,\ -3i$

12) $-4,\ -3+\sqrt{3}$

Answers to Write polynomial functions

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

5) $-1 - 2\sqrt{2},\ -3 - \sqrt{2}$ 6) $-2 + 2i$

7) $f(x) = 12x^4 - 59x^3 + 47x^2 + 106x - 120$ 8) $f(x) = x^3 - x^2 - 8x + 6$

9) $f(x) = x^3 - x^2 + x - 1$ 10) $f(x) = x^3 + 5x^2 + x - 3$ 11) $f(x) = x^3 - 2x^2 + 9x - 18$

12) $f(x) = x^3 + 10x^2 + 30x + 24$