Homework Day 1

Write the equation of the polynomial given zeros in factored form and in standard form.

4, -3, 2 $x=-3$ $x+3=0$ $x=2$ $x-2=0$

Factored form: $f(x)=(x+3)(x-2)$

Standard form: $f(x)=x^2+x-6$

2i, $-2i$ $x=2i$ $x-2i=0$ $x=-2i$ $x+2i=0$

Factored form: $f(x)=(x-2i)(x+2i)$

Standard form: $f(x)=x^2+4$

5, 0, -7 $x=0$ $x=-7$ $x+7=0$

Factored form: $f(x)=x(x+7)$

Standard form: $f(x)=x^2+7x$

4(with multiplicity of 2) & -3

$x=4$ $x=4$ $x=-3$

$(x-4)(x-4)(x+3)$

Factored form: $f(x)=(x-4)^2(x+3)$

Standard form: $f(x)=x^3-5x^2-8x+48$

-1, -4i, $4i$

Factored form: $f(x)=(x+1)(x+4i)(x-4i)$

Standard form: $f(x)=x^3+x^2+16x+16$

0, 5i, $-5i$

Factored form: $f(x)=x(x-5i)(x+5i)$

Standard form: $f(x)=x^3+25x$

Homework Day 1

Write the equation of the polynomial given zeros in factored form and in standard form.

Don't forget some roots travel in pairs!!!!

-4, 5, 0 $x=-4$ Factored form: $f(x)=x(x+4)(x-5)$ Standard form: $f(x)=x^3-x^2-20x$	7, 4i Factored form: $f(x)=(x-7)(x+4i)(x-4i)$ Standard form: $f(x)=x^3-7x^2+16x-112$
0(with multiplicity of 3), 2i Factored form: $f(x)=x^3(x+2i)(x-2i$ Standard form: $f(x)=x^5+4x^3$	3 − 2i and -3 Factored form: $f(x)=(x+3)(x-3+2i)(x-3-2i)$ Standard form: $f(x)=x^3-3x^2-5x+39$
1 + 2i and 6 Factored form: $f(x)=(x-6)(x-1+2i)(x-1-2i)$ Standard form: $f(x)=x^3-8x^2+17x-30$	$1-\sqrt{3}$ and -4 Factored form: $f(x)=(x+4)(x-1+\sqrt{3})(x-1-\sqrt{3})$ Standard form: $f(x)=x^3+2x^2-10x-8$