

Write the polynomial in standard form, and identify the zeros of the function and the x-intercepts of its graph.

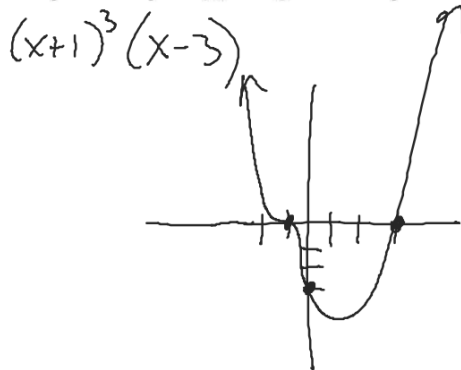
$$f(x) = (x + 2)(x - \sqrt{3}i)(x + \sqrt{3}i)$$

Write the polynomial in standard form, and identify the zeros of the function and the x-intercepts of its graph.

$$f(x) = x(x - 1)(x - 1 - i)(x - 1 + i)$$

Write a polynomial function of minimum degree in standard form with real coefficients whose zeros and their multiplicities are listed. Then sketch a graph.

-1 (multiplicity 3), 3 (multiplicity 1)

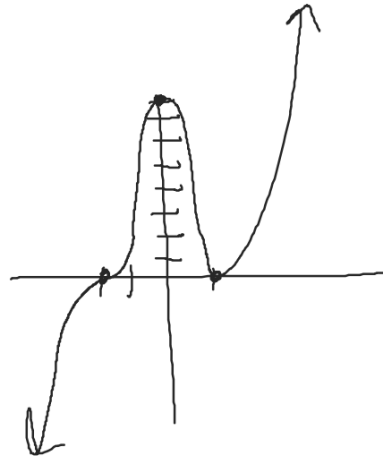


$$\begin{array}{r}
 (x+1)(x+1)(x+1)(x-3) \\
 (x^2+2x+1)(x^2-2x-3) \\
 \hline
 x^4 - 2x^3 - 3x^2 \\
 + 2x^3 - 4x^2 - 6x \\
 x^2 - 2x - 3 \\
 \hline
 x^4 - 6x^2 - 8x - 3
 \end{array}$$

Write a polynomial function of minimum degree in factored form with real coefficients whose zeros and their multiplicities are listed. Then sketch a graph.

1 (multiplicity 2), -2 (multiplicity 3)

$$f(x) = (x-1)^2(x+2)^3$$



Write a polynomial function of minimum degree in standard form with real coefficients whose zeros and their multiplicities are listed. Then sketch a graph.

-1 (multiplicity 2), -2-i (multiplicity 1) -2+i

$$(x+1)^2 (x - (-2-i)) (x - (-2+i))$$

$$(x+1)^2 (x+2+i)(x+2-i)$$

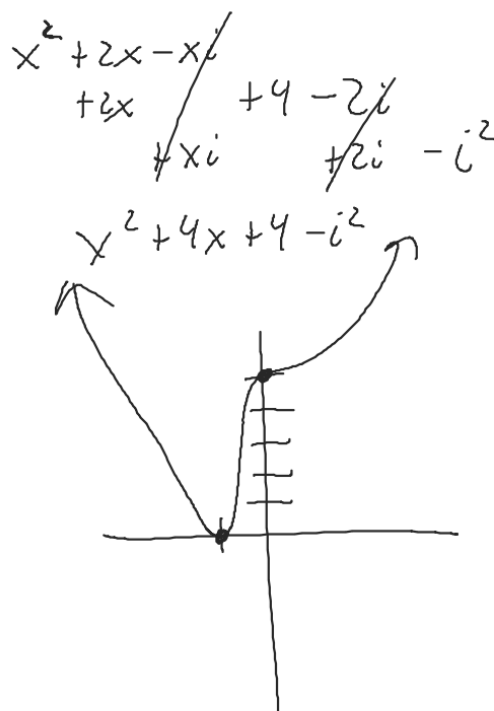
$$(x^2+2x+1)(x^2+4x+5)$$

$$x^4 + 4x^3 + 5x^2$$

$$+ 2x^3 + 8x^2 + 10x$$

$$x^2 + 4x + 5$$

$$x^4 + 6x^3 + 14x^2 + 14x + 5$$



Find all of the zeros and write a linear factorization of the function.

$$f(x) = 3x^4 + 8x^3 + 6x^2 + 3x - 2$$

Find all of the zeros and write a linear factorization of the function.

$$f(x) = x^5 - 8x^4 + 28x^3 - 56x^2 + 64x - 32$$

2	1	-8	28	-56	64	-32	
		2	-12	+32	-48	32	
2	1	-6	+16	-24	16	0	
		2	-8	16	-16		
2	1	-4	8	-8		0	
		2	-4	8			
	1	-2	4	0			

$$x^2 - 2x + 4$$

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

