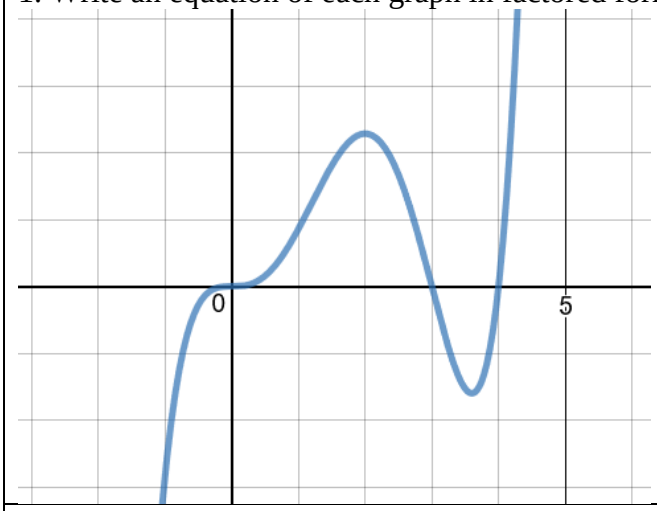
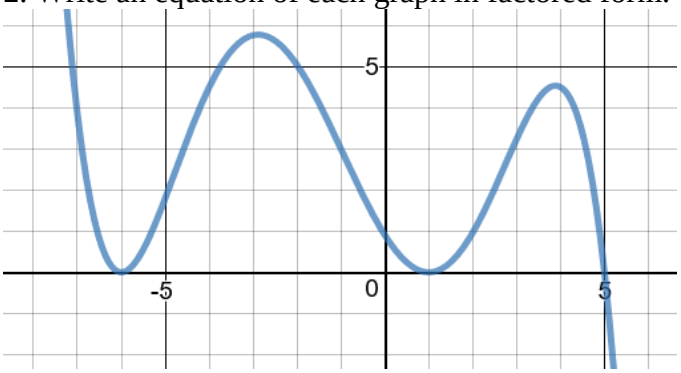
Writing Equations and Graphing Polynomials

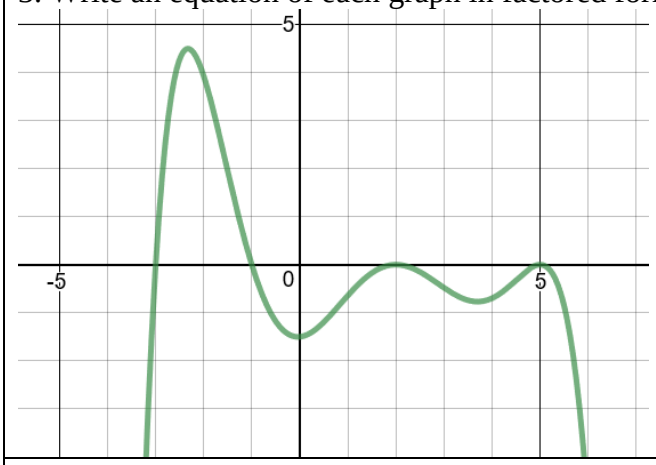
1. Write an equation of each graph in factored form.



2. Write an equation of each graph in factored form.



3. Write an equation of each graph in factored form.



4. Find the value of C that will give no remainder.

$f(x) = 2x^4 + 7x^3 - 4x^2 + Cx - 18 \div (x + 1)$

5. Find the value of C that will give no remainder.

$f(x) = x^4 - 2x^3 + Cx^2 - 18x + 9 \div (x - 1)$

6. Find the value of C that will give no remainder.

$f(x) = x^4 - x^3 + Cx^2 - 3x - 6 \div (x - 2)$

7. State the degree and end behavior of each polynomial, find the zeros (using any method necessary) and multiplicities, then sketch the graph.

$f(x) = x^5 - 5x^3 + 4x$

8. State the degree and end behavior of each polynomial, find the zeros (using any method necessary) and multiplicities, then sketch the graph.

$f(x) = -\frac{1}{4}(x-2)^2(x+2)^2$

9. State the degree and end behavior of each polynomial, find the zeros (using any method necessary) and multiplicities, then sketch the graph. $f(x) = x^5 - x^4 - 13x^3 + x^2 + 48x + 36$ (x – 3), (x + 1) and (x + 2) are factors	10. State the degree and write the equation of the polynomial in factored form, then sketch the graph. Leading Coefficient – x = –4, of multiplicity 3 x = –1, of multiplicity 1 x = 0, of multiplicity 1 x = 3, of multiplicity 2
11. State the degree and end behavior of each polynomial, find the zeros (using any method necessary) and multiplicities, then sketch the graph. $f(x) = x^4 + 3x^3 - 43x^2 - 9x + 120$ $(x - \sqrt{3})$ is a factor	12. State the degree and end behavior of each polynomial, find the zeros (using any method necessary) and multiplicities, then sketch the graph. $f(x) = x^4 + 3x^3 - 5x^2 - 21x - 14$ $(x - \sqrt{7})$ is a factor