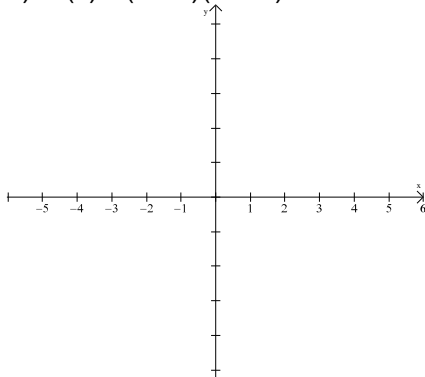
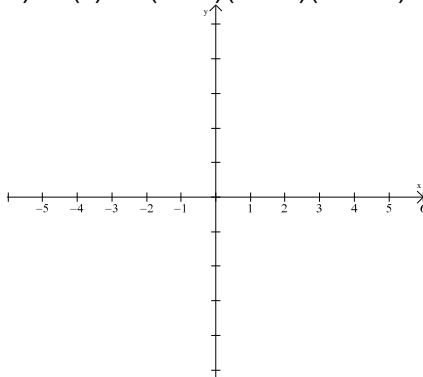
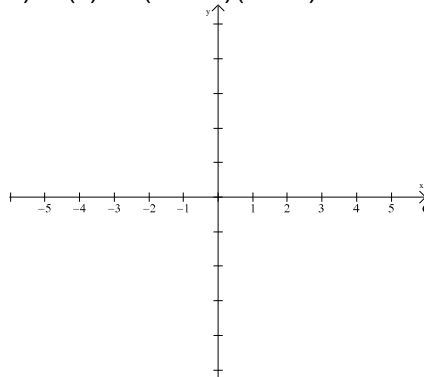
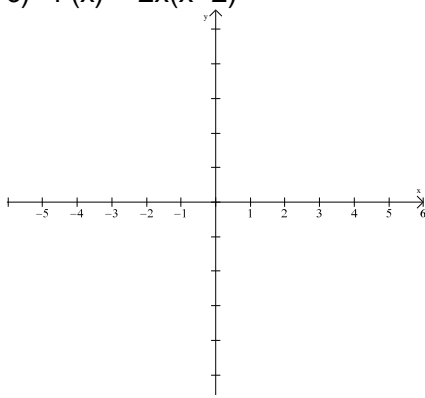
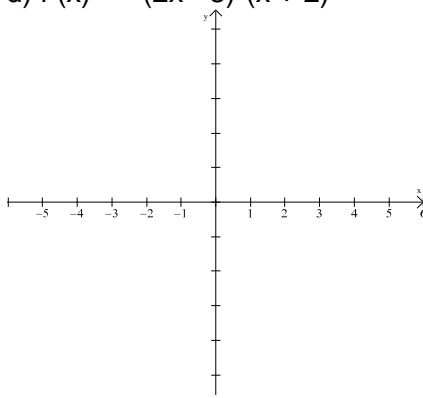
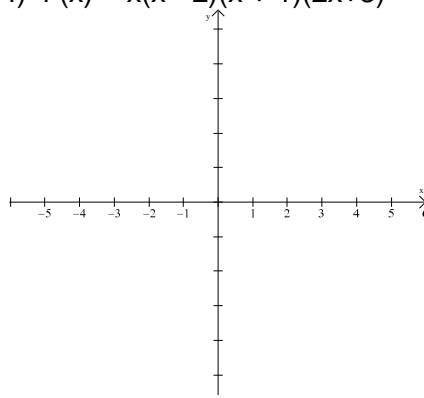
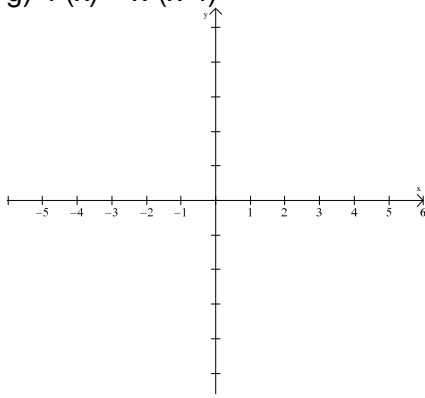
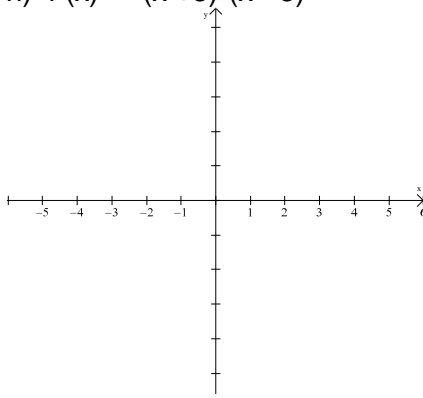
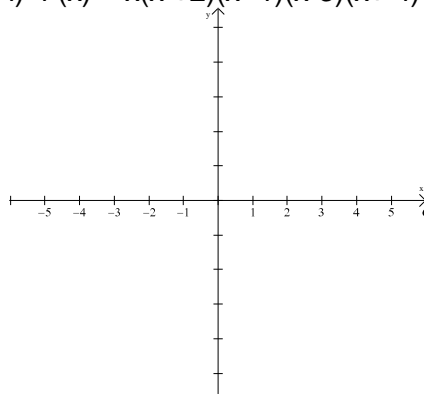


Lesson #3: Characteristics of Polynomial Functions in Factored Form

L.G: "I can sketch the graph of a polynomial function given in factored form using its key features as well as determine the equation of a polynomial given its graph."

1. Draw a sketch of each graph using the properties of polynomial functions.

<p>a) $f(x) = (x - 4)(x + 3)$</p> 	<p>b) $f(x) = -(x - 1)(x + 4)(x - \frac{1}{2})$</p> 	<p>c) $f(x) = (2x - 1)(x + 1)^2$</p> 
<p>c) $f(x) = 2x(x - 2)^3$</p> 	<p>d) $f(x) = -(2x - 3)^2(x + 2)^2$</p> 	<p>f) $f(x) = x(x - 2)(x + 1)(2x + 3)$</p> 
<p>g) $f(x) = x^3(x - 4)$</p> 	<p>h) $f(x) = -(x + 3)^2(x - 3)^3$</p> 	<p>i) $f(x) = x(x + 2)(x - 1)(x - 3)(x + 4)$</p> 

2. a) When does a turning point occur on the x - axis?

b) When does a point of inflection occur on the x -axis?

3. Is it possible:

a) for a cubic function to have no zero?

b) for a quartic function to have no zero? (Explain)