Sec 3.3
Characteristics of polynomial Functions in factored form

The factored form of a quadratic shows us the....

Ex: $y = 2(x-4)(x+3)$

What does this show us?

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So...
What about $y = 2(x-4)(x+5)(x+7)$

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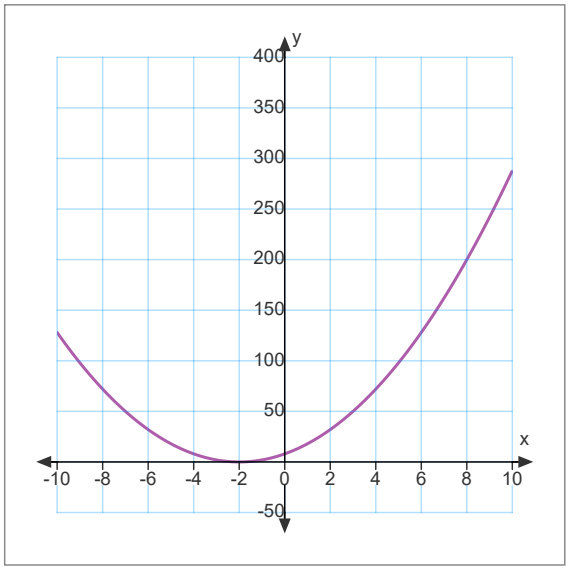
Some things to note:

$y = 2(x+2)^2$



So.. rule is that if there is a factor squared, the function "touches" the *x*-axis only.

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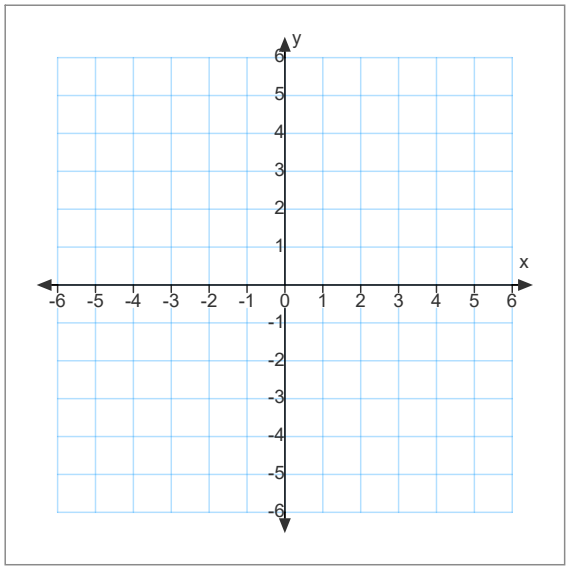
What about a binomial that is "cubed"?

$y=2(x+2)^3$



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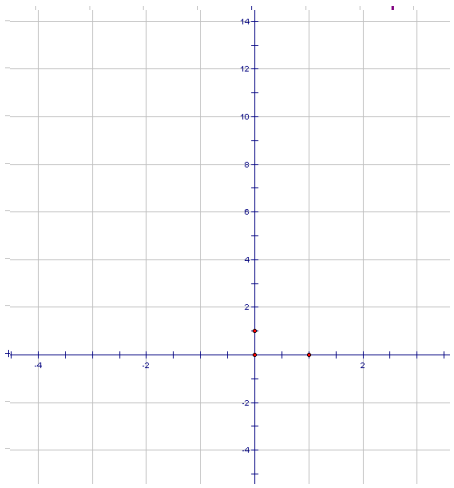
Try this:

Sketch $y = (x+3)(x-1)^2$

Step 1:
Find zeros

Step 2:
Determine end behaviours

Step 3:
Find y-int



click to show plot

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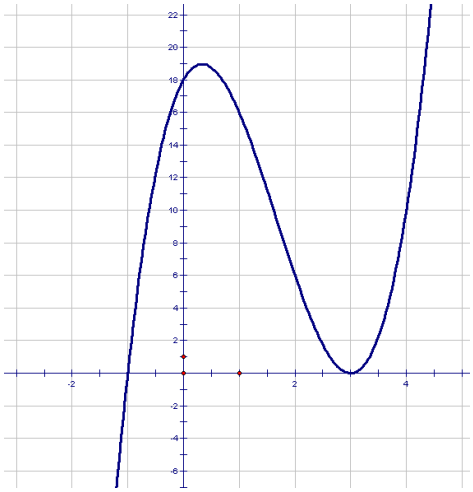
Now find the equation of the line given the graph.



Step 1:
Determine the zeros

Step 2:
Find another point to solve for a

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See Ex 5 on p144

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Homework
p146 #1, 2, 4, 7, 12

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Attachments

cubed binomial.gsp