

1.4 b Polynomial Functions (cont.)

Note Title

14/09/2012

Without a graphing calculator, sketch the graph of

$$y = (x+2)(x+1)(x-1)$$

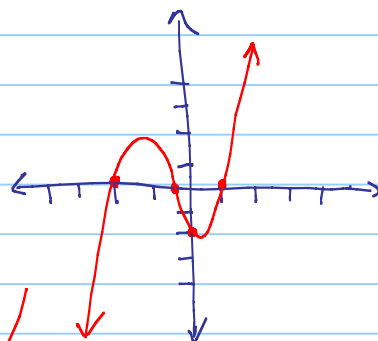
Zeros: $x = -2, -\frac{1}{2}, 1$

y-int: $y = (2)(1)(-1) = -2$

Biggest term: $(x)(2x)(x) = 2x^3$

Shape: $-x^3$

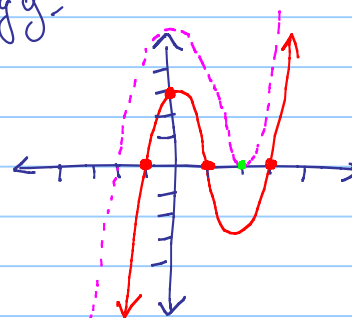
$+x^3$



Draw the graph of $y = x^3 - 3x^2 - x + 3$ without using graphing technology.

$$\begin{array}{r|rrrr} \text{Factor} & 1 & -3 & -1 & 3 \\ & & 1 & -2 & -3 \\ \hline & 1 & -2 & -3 & 0 \end{array}$$

$$\begin{aligned} y &= (x-1)(x^2-2x-3) \\ &= (x-1)(x-3)(x+1) \end{aligned}$$



What could you do to the graph so it would have exactly two zeroes?

For example $y = (x+2)(x-2)^2$

Sketch the graph of $y = (x+1)^2(x-1)(x-2)$

Zeros: $x = -1, 1, 2$

y-int: $y = 2$

Shape:

