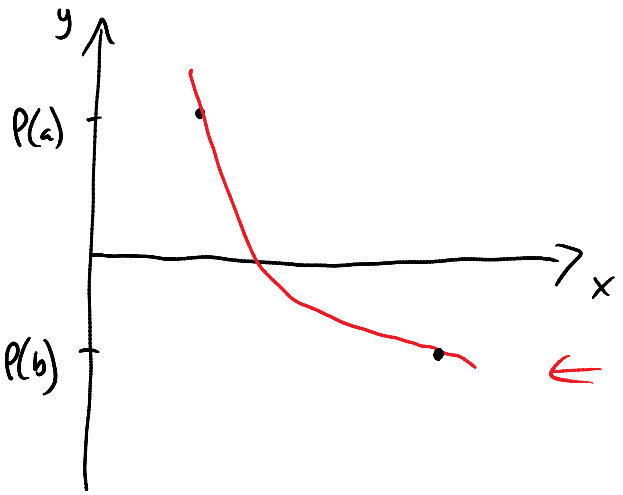
Section 4.1 & 4.2: Cont'd

Wednesday, January 28, 2015
12:29 PM

Intermediate Value Theorem:



← polynomials are continuous, so the line joining the two points must cross the x-axis somewhere between a and b

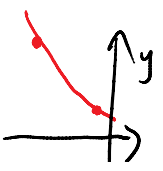
example: for $P(x) = x^4 - 3x^2 + x - 1$, is there a zero between

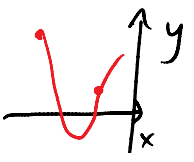
a) $a = -3$ and $b = -2$?

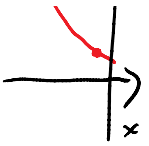
b) $a = -2$ and $b = -1$?

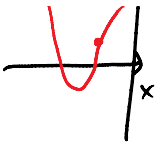
a) plug these values into $P(x)$:

$P(-3) = 50$
$P(-2) = 1$
} maybe









b) $P(-2) = 1$
$P(-1) = -4$

} yes there is at least one zero between -2 and -1