

Bellwork - Khan Academy

Subject --> SAT --> Practice --> Math -->

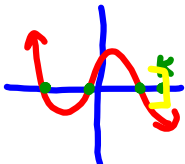
Problem Solving and Data Analysis -->

Table Data -->

Practice - do 5 questions. Must show me,
this one I can't see from my side of program.

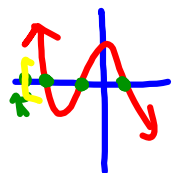
Sec 2.4 day 4

upper bound - a number k is an upper bound, if $f(x)$ is never zero when x is greater than k .



To determine if a number, k , is an upper bound we use synthetic division, if last line is all positive #s then k is an upper bound.

lower bound - a number k is a lower bound, if $f(x)$ is never zero when x is less than k .



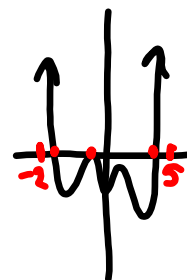
To determine if a number, k , is a lower bound we use synthetic division, if last line is positive/negative alternating signs, then k is a lower bound.

ex. Prove that all of the real zeros of

$$f(x) = 2x^4 - 7x^3 - 8x^2 + 14x + 8$$

$$P = \frac{1, 2, 4, 8}{1, 2} = 1, \frac{1}{2}, 2, 4, \frac{1}{4}, -1, -\frac{1}{2}, \frac{1}{8}, \frac{1}{16}$$

Must lie in the interval of $[-2, 5]$



$$\begin{array}{r} \underline{-2 |} 2 -7 -8 14 8 \\ -4 22 -28 28 \\ \hline 2 -11 14 -14 36 \end{array}$$

-2 is a lower bound
because bottom line alternates
signs.

$$\begin{array}{r} \underline{5 |} 2 -7 -8 14 8 \\ 10 15 35 245 \\ \hline 2 3 7 49 253 \end{array}$$

5 is an upper bound because
bottom line #'s are all +

My Math Lab
Sec 2.4 day 4