

Pre-Calculus Graphing Calculator Practice

Answer the following (Round to three decimal places if possible):

Given the function: $f(x) = -2x^4 + 13x^3 - 21x^2 + 2x + 8$ use a graphing utility to find:

1. Sketch the graph that is in your graphing utility window.
2. Is $f(x)$ one-to-one? Justify.
3. The coordinates where the relative maxima and minima exists (if possible).
4. The open interval(s) where the function is increasing, decreasing, or constant.
5. Approximate all the zeros to three decimal places.
6. Where is $f(x) \geq 0$? Where is $f(x) < 0$?
7. State the window, that you are using in your graphing utility as $[x \text{ min}, x \text{ max}]$ by $[y \text{ min}, y \text{ max}]$
8. What functions are located under the math (num) on your graphing calculator?

key

Pre-Calculus Graphing Calculator Practice

Answer the following (Round to three decimal places if possible):

Given the function: $f(x) = -2x^4 + 13x^3 - 21x^2 + 2x + 8$ use a graphing utility to find:

1. Sketch the graph that is in your graphing utility window.

2. Is $f(x)$ one-to-one? Justify.

$f(x)$ is not one-to-one b/c $f(x)$ fails the HLT.

3. The coordinates where the relative maxima and minima exists (if possible).

REL MAX: $(0.050, 8.049);$
 $(3.313, 15.911)$ } REL MIN: $(1.512, -2.501)$

4. The open interval(s) where the function is increasing, decreasing, or constant.

INCR: $(-\infty, 0.050) \cup (1.512, 3.313)$

DECR: $(0.050, 1.512) \cup (3.313, \infty)$

CONST: NONE

5. Approximate all the zeros to three decimal places.

$(-0.5, 0); (1, 0); (2, 0); (4, 0)$

6. Where is $f(x) \geq 0$? Where is $f(x) < 0$?

$[-0.5, 1] \cup [2, 4]$ } $(-\infty, -0.5) \cup (1, 2) \cup (4, \infty)$

7. State the window, that you are using in your graphing utility as

$[x \text{ min}, x \text{ max}]$ by $[y \text{ min}, y \text{ max}]$

$[-5, 5]$ by $[-10, 20]$

8. What functions are located under the math (num) on your graphing calculator?

#1 absolute value: $\text{abs}()$

#5 Greatest Integer: $\text{int}()$