

PreCalculus '13-14

Name: _____

Dr. Quattrin

Polynomials Test-- CALCULATOR ALLOWED

Round to 3 decimal places.

Score _____

Show all work.

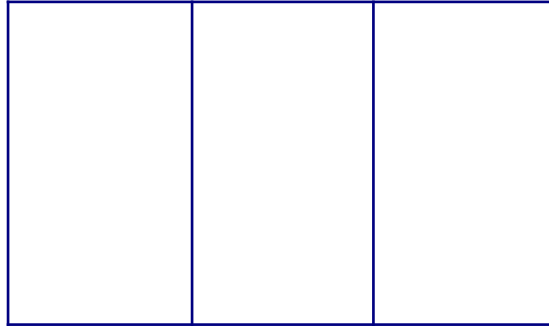
1. Find the zeros of $y = 2x^3 + x^2 - 8x - 4$. Show the algebraic work to support the zeros.

2. Find the critical values and extreme values of $y = 2x^3 + x^2 - 8x - 4$. Show the derivative and algebra to support the critical values.

3. Find the zeros of $y = -x^4 + 10x^2 - 9$ on $x \in [-6, 2]$. Show the algebraic work to support the zeros.

4. Find the critical values and extreme values of $y = -x^4 + 10x^2 - 9$ on $x \in [-6, 2]$. Show the derivative and algebra to support the critical values.

5. A 540 square foot field is surrounded and divided into three equal parts by a fence. What is the minimum amount of fencing to be used?



6. Create a sign pattern for the function $f'(x)$ if $f(x)$ is decreasing from $-\infty$ to -7 , increasing from -7 to 3 , and increasing from 3 to ∞ . Be sure to label the sign pattern appropriately. Then, determine whether each critical value represents a max, a min, or neither. Explain how you know for each.

7. Find the traits and **sketch** $y = 2x^3 + x^2 - 8x - 4$.

Domain:

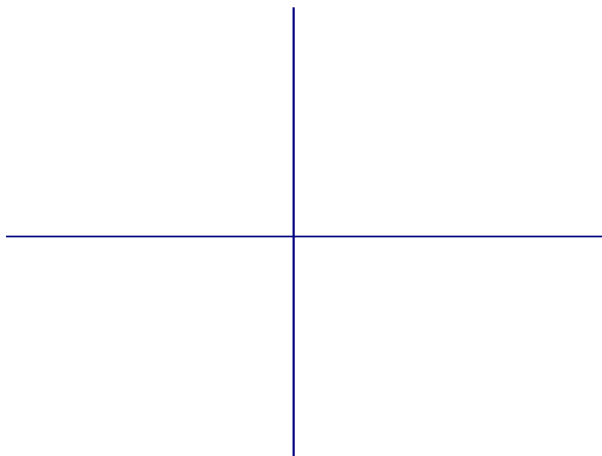
Range:

Y – Int:

End Behavior:

Zeros:

Extreme Points:



8. Find the traits and **sketch** of $y = -x^4 + 10x^2 - 9$ on $x \in [-6, 2]$.

Domain:

Range:

Y-Int:

End Behavior:

Zeros:

Extreme Points:

