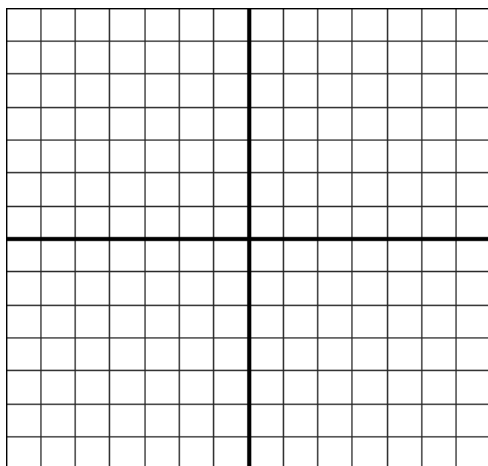


Unit 4 WS 4

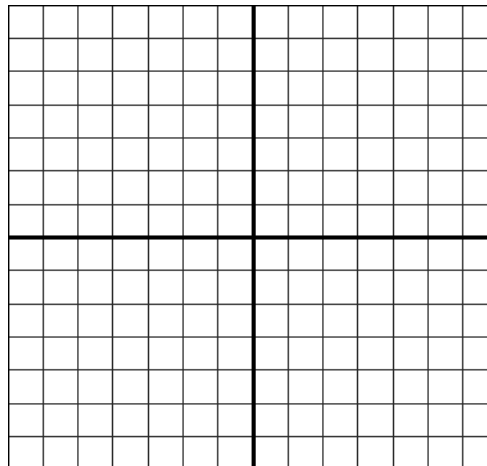
Calculus 1

Using the graph of $f(x)$, find each of the following.

1.



2.

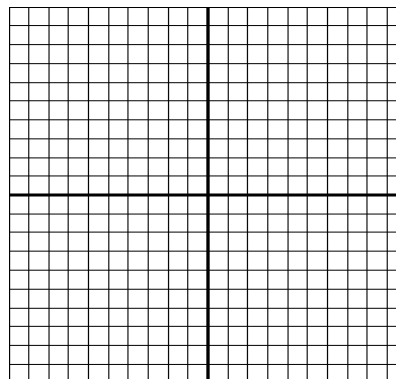


| | |
|----------------------|-------|
| Inc: | _____ |
| Dec: | _____ |
| Local Max: | _____ |
| Local Min: | _____ |
| Concave Up: | _____ |
| Concave Down: | _____ |
| Pt(s) of Inflection: | _____ |

| | |
|----------------------|-------|
| Inc: | _____ |
| Dec: | _____ |
| Local Max: | _____ |
| Local Min: | _____ |
| Concave Up: | _____ |
| Concave Down: | _____ |
| Pt(s) of Inflection: | _____ |

Find the intervals on which the graph of f is increasing, decreasing, concave upward, and concave downward. Find the coordinates of any local extrema and point of inflection. Sketch the graph.

3. $f(x) = x^2 - 8x - 9$



$f'(x) =$ _____

Critical Points: _____

Increasing: _____

Decreasing: _____

Local Max(s): _____

Local Min(s): _____

$f''(x) =$ _____

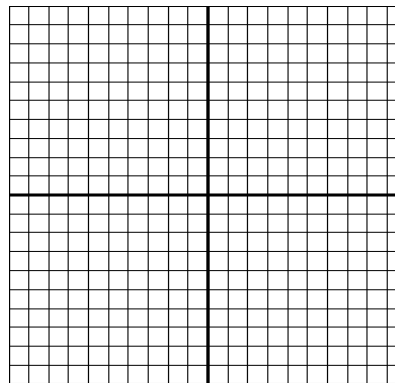
Critical Points: _____

Concave Up: _____

Concave Down: _____

Pt(s) of inflection: _____

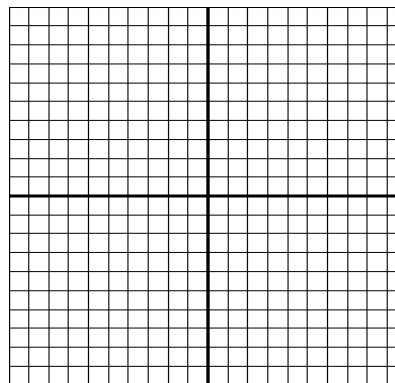
4. $f(x) = x^4 - 4x^3 + 2$



$f'(x) =$ _____
 Critical Points: _____
 Increasing: _____
 Decreasing: _____
 Local Max(s): _____
 Local Min(s): _____

$f''(x) =$ _____
 Critical Points: _____
 Concave Up: _____
 Concave Down: _____
 Pt(s) of inflection: _____

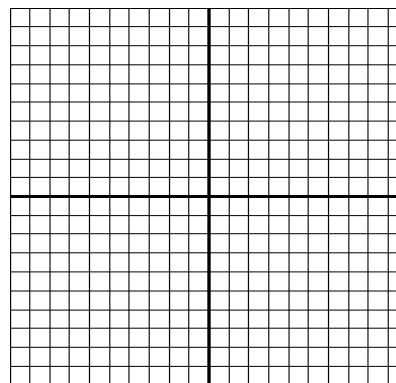
5. $f(x) = -x^4 + 6x^2 - 4$



$f'(x) =$ _____
 Critical Points: _____
 Increasing: _____
 Decreasing: _____
 Local Max(s): _____
 Local Min(s): _____

$f''(x) =$ _____
 Critical Points: _____
 Concave Up: _____
 Concave Down: _____
 Pt(s) of inflection: _____

6. $f(x) = x^{\frac{2}{3}} + 3$



$f'(x) =$ _____
 Critical Points: _____
 Increasing: _____
 Decreasing: _____
 Local Max(s): _____
 Local Min(s): _____

$f''(x) =$ _____
 Critical Points: _____
 Concave Up: _____
 Concave Down: _____
 Pt(s) of inflection: _____