

Graphing Functions- HW Problems

Sketch a graph of the following functions making sure you find any asymptotes, intercepts, local maxima/minima, inflection points, and intervals where the graph is increasing/decreasing and concave up/down.

1. $y = x^3 - 12x^2 + 36$

2. $y = x^4 - 2x^2$

3. $y = \frac{1}{x^2 - 4}$

4. $y = \frac{x}{x^2 - 4}$

5. $y = \frac{3x^2}{1-x^2}$, you can assume $y' = \frac{6x}{(1-x^2)^2}$ and $y'' = \frac{6+18x^2}{(1-x^2)^3}$.

6. Sketch a rough graph of $f(x)$ if

sign of $f'(x)$	+		+		-		-		+
	-2		1		3		5		

sign of $f''(x)$	+		-		-		+		+
	-2		1		3		5		

You can use the results problem number 10 in section 19, Derivatives and the Shapes of Graphs.