Find the regions where the function $f(x)=x+\frac{32}{x^2}$ is increasing or decreasing.

Given the function $f(x)=(x-1)^3(x-5)$ find all extrema determine regions wher the function is concave up and where it is concave down.

Discuss the concavity of the function f and find its inflection points if any?
$f(x)=x^4+x^3-3x^2+1.$

Find the relative extrema of $f(x)=-3x^5+5x^3$

Find the absolute extrema of the function $g(x)=4\left(1+\frac{1}{x}+\frac{1}{x^2}\right)$ [-4,5]

Sketch the graph of $f(x)=\frac{2+x}{1-x}$. Calculate and clearly indicate intercepts, asymptotes, extrema and regions of concavity.

Find all the asymptotes of $f(x) = \dfrac{x+2}{x^2 - 2x}$.

Evaluate the derivative of $f(x) = \dfrac{x^2}{x^2 + 4}$, at x = -1,0,1