MAX/MIN & CONCAVITY Review Sheet

For #'s 1-3, find the local max and min points, the inflection points and the intervals where the graph is rising/falling & concave up/concave down.
****FOR #'s 1 and 2 DO NOT USE A CALCULATOR****

1) $y = x + \sin x$ in the interval $[-2\pi, 2\pi]$

2) $y = x^3 - 2x^2 + x$

3) $y = 2x^3 - x^2 - 14x - 12$

For #'s 4 & 5, find all asymptotes, all local min's and max's, all inflection points and where the graph is rising/falling & concave up/concave down.

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

*5) $y = \frac{x^2 + 1}{x^3 - 4x}$ ****WARNING: The 2nd derivative may be painful!****