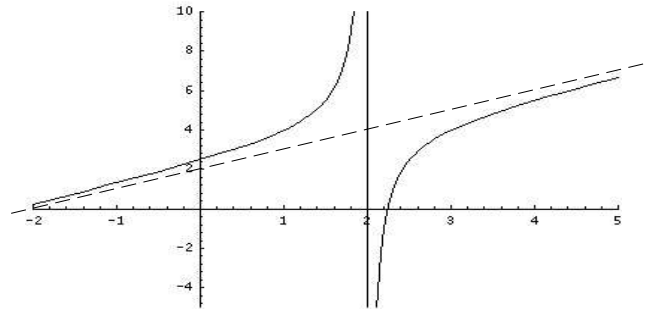1. (a) Rel. Minima at $(-\sqrt{3}, -5/4)$, $(\sqrt{3},-5/4)$, Rel. Maximum at $(0,1)$,
   Inflection Points at $(-1, -1/4)$, $(1, -1/4)$
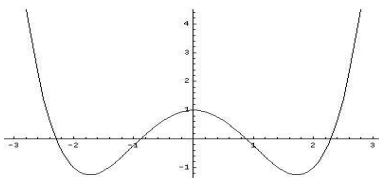
1. (b) Relative minimum at $(0,-1)$, Inflection points at $(-1/\sqrt{3}, -1/2)$, $(1/\sqrt{3}, -1/2)$
   Horizontal asymptote is $y = 1$
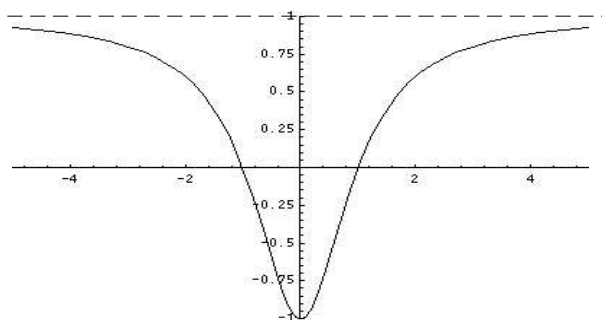
1. (c) No maximum or minimum points. No inflection points. Asymptotes to the line y=x+2. Vertical asymptote at x=2.

2. $20/\pi = 6.37$ cm

3. (a) $y(x) = x^2/2 + 5x - 4$ (b) $y(x) = x^3/3 + 4$

4. (a) $z^6/6 - z^4/2 - z + C$ (b) $-t^{-2}/2 + 4/3\ t^{3/2} - t^3 + C$

   (c) $e^{2y}/2 + 3\ y^{1/3} + C$ (d) $-(2/3)\cos(3x) - \sin x + C$

5. (a) Largest is 5 at $x = 1$, smallest is 4 at $x = 2$

   (b) Largest is $1/2$ when $x = 1$, smallest is $-1/2$ when $x = -1$

6. (a) $T'(t) = c\ (15 - T(t))$ where $c = (\ln 3)/10$ and $T(0) = 30$

   (b) $T(t) = 15 + 15\ e^{-ct}$ where $c = (\ln 3)/10$ and $T(20) = 16\ 2/3$

7. $1 = b\ S*$

8. (a) Concave up for $x < 2 - \sqrt{2}$ and $x > 2 + \sqrt{2}$,

   concave down for $2 - \sqrt{2} < x < 2 + \sqrt{2}$,

   inflection points occur at $x = 2 + \sqrt{2}$ and $x = 2 - \sqrt{2}$

   (b) Concave down for $0 < x < 1/2$, concave up for $x > 1/2$

   inflection point occurs when $x = 1/2$