

$$69. \quad x^2 - 3 \ln y + y^2 = 10$$
$$2x - \frac{3}{y} y' + 2y y' = 0$$

$$y' \left(2y - \frac{3}{y} \right) = -2x$$

$$y' = \frac{+2x}{\frac{3}{y} - 2y} = \frac{2xy}{3 - 2y^2}$$

$$73. y = \frac{x^2}{2} - \ln x$$

$$y' = x - \frac{1}{x} = 0$$

$$y' = x - x^{-1}$$

$$x = \frac{1}{x}$$

$$x^2 = 1$$

$$x = \pm 1 \leftarrow \text{CPS}$$

$$y'' = 1 + x^{-2} = 0$$

not -1 because $\ln(\text{neg})$ does not exist

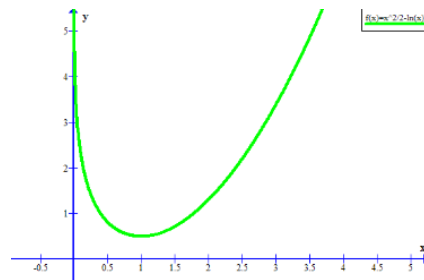
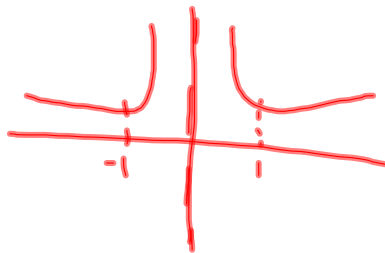
$$\frac{1}{x^2} = -1$$

no inflection points

$$y''(1) = 1 + \frac{1}{1^2} = 2$$

~~$$y''(-1) = 1 + \frac{1}{(-1)^2} = 2$$~~

minimums @ 1



$$y = \ln x^{3/2}$$

find slope of
tangent line @ (1,0)

$$y = \frac{3}{2} \ln x$$

$$y' = \frac{3}{2x}$$

$$m = \frac{3}{2 \cdot 1} = \left(\frac{3}{2} \right)$$