[1] $f(x) = x^4 + x^2$ is not a power function, but it is the sum of such functions. Is f symmetric w.r.t the y-axis? (Prove that it is or that it is not.)

[2] Is $f(x) = x^4 + x$ symmetric w.r.t the y-axis? (Prove that it is or that it is not.)

[3] In class and in the text is was proved that $f(x) = x^2$ is increasing on $(0, \infty +)$. Can a similar proof be given that $f(x) = x^2$ is increasing on $[0, \infty +)$?

The following should include a sketch of the function's graph.

[4] $f(x) = x^3 + x$ is symmetric w.r.t the origin. Prove this.

[5] $f(x) = x^2 + 3$ is symmetric w.r.t y-axis. Prove this.

[6] Is $f(x) = x^3 + 3$ is symmetric w.r.t the origin. Prove your answer.

[7] Is $y = (x + 1)^2$ is symmetric w.r.t the y-axis. Prove your answer.

[8] $y = x^8 + x$ is symmetric w.r.t the y-axis. Use a graphing calculator and adjuct the view to see the region of symmetry.