Symmetry to x-axis

$y \to -y$

$y^2 = x^5 - 7x$

$(-y)^2 = x^5 - 7x$

$y^2 = x^5 - 7x$

End Result of equation matches

Symmetric to x-axis

Symmetry to y-axis

$x \to -x$

$y = x^3 + 4$

$y = (-x)^3 + 4$

$y = -x^3 + 4$

End result of equation do not match

Equation is not symmetric to y-axis

Symmetry to origin

$x \to -x \quad y \to -y$

$y = \frac{x}{x^2+5}$

$(-y) = \frac{(-x)}{(-x)^2+5}$

$-y = \frac{-x}{x^2+5}$

$y = \frac{x}{x^2+5}$

End result of equation matche

Equation is symmetric to origin

$-y = \frac{-x}{x^2+5}$

$-y \div -1 = \left(\frac{-x}{x^2+5}\right) \div -1$

$\frac{-y}{1} \cdot \left(\frac{-1}{1}\right) = \left(\frac{-x}{x^2+5}\right) \cdot \frac{-1}{1}$

$y = \frac{-x}{x^2+5}$