

Exercise 34

In Exercises 29–40, test for symmetry with respect to each axis and to the origin.

$$xy^2 = -10$$

Solution

Replacing x with $-x$ changes the equation, so there's no symmetry with respect to the y -axis.

$$(-x)y^2 = -10 \rightarrow -xy^2 = -10 \rightarrow xy^2 = 10$$

Replacing y with $-y$ does not change the equation, so there is symmetry with respect to the x -axis.

$$x(-y)^2 = -10 \rightarrow xy^2 = -10$$

Replacing x with $-x$ and y with $-y$ changes the equation, so there's no symmetry with respect to the origin.

$$(-x)(-y)^2 = -10 \rightarrow -xy^2 = -10 \rightarrow xy^2 = 10$$

