Symmetry

x-axis to solve w/ algebra replace y with -y

ex1 Does $4x^2 - y^2 = 5$ have x-axis sym?

$4x^2 - (-y)^2 = 5$ same.
$= 4x^2 - y^2 = 5$

yes!

ex2 $x^2 + 3 = y$

$x^2 + 3 = -y$ not the same
$= -x^2 - 3 = y$

no!

y-axis to solve w/ algebra replace x with -x

ex3 $-4x + y = 10$

$-4(-x) + y = 10$
$4x + y = 10$

no!

ex4 $x^2 = 2y$

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

yes!

origin to solve w/ algebra replace x with -x AND y with -y

ex5 $3x = 4y^2$

$3(-x) = 4(-y)^2$

$-3x = 4y^2$

no!

ex6 $7x = 5y$

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

divide by -1 $-7x = -5y$
$7x = 5y$

yes!