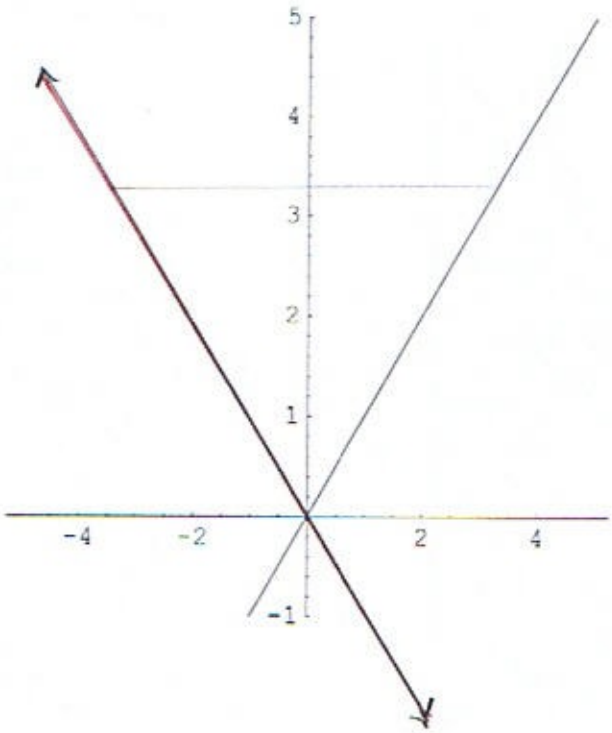
■ **A. Give the points which are symmetric to the following points**
(a) with respect to the y-axis,
(b) with respect to the origin,
(c) with respect to the x-axis, and
(d) with respect to the line $y = x$.

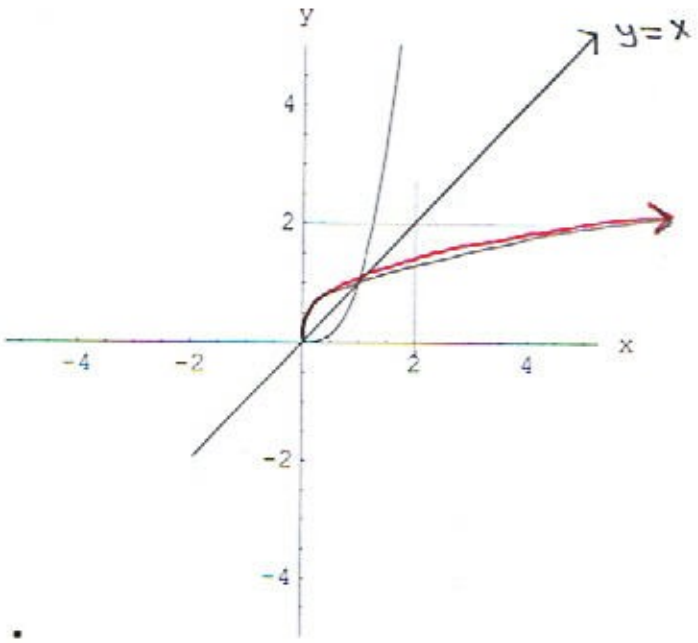
	y - axis	origin	x - axis	$y = x$
(-5, 17)	(5, 17)	(5, -17)	(-5, -17)	(17, -5)
(14, 123)	(-14, 123)	(-14, -123)	(14, -123)	(123, 14)
(-9, -8)	(9, -8)	(9, 8)	(-9, 8)	(-8, -9)
$(\pi, \sqrt{5})$	$(-\pi, \sqrt{5})$	$(-\pi, -\sqrt{5})$	$(\pi, -\sqrt{5})$	$(\sqrt{5}, \pi)$

■ **B. Sketch the line or curve.**

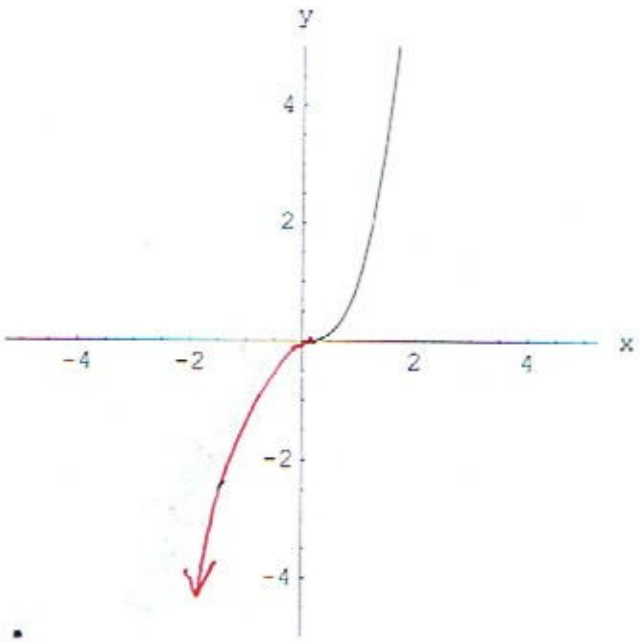
[1] Sketch the line symmetric to the given line with respect to the y-axis.



[2] Sketch the curve symmetric to the given curve with respect to the line $y = x$.



[3] Sketch the curve symmetric to the given curve with respect to the origin.



■ **C. $f : f(x) = x^4$ is symmetric with respect to the y-axis. Prove this.**

$f(a) = a^4 = f(-a)$

$\therefore$ f is symmetric w.r.t y-axis