

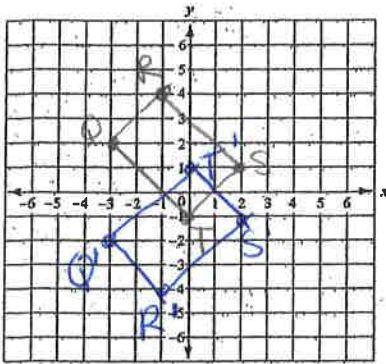
Geometry Notes

Reflections

Reflection: a transformation that represents a flip of a figure. (Mirror image!)

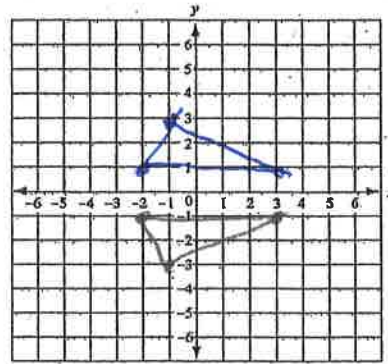
Ex1: Reflection about the x-axis

A) Quadrilateral QRST



Original Point	Reflected Point
Q(-3, 2)	(-3, -2)
R(-1, 4)	(-1, -4)
S(2, 1)	(2, -1)
T(0, -1)	(0, 1)

B) Triangle DEF

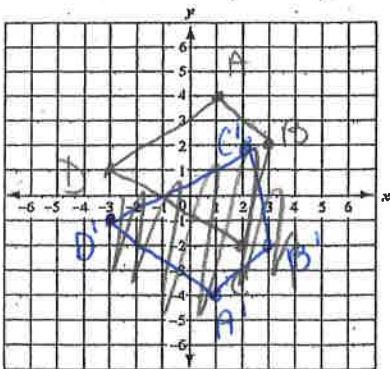


Original Point	Reflected Point
D(-2, -1)	(-2, 1)
E(-1, -3)	(-1, 3)
F(3, -1)	(3, 1)

***Rule:** change sign of y $(x, y) \rightarrow (x, -y)$

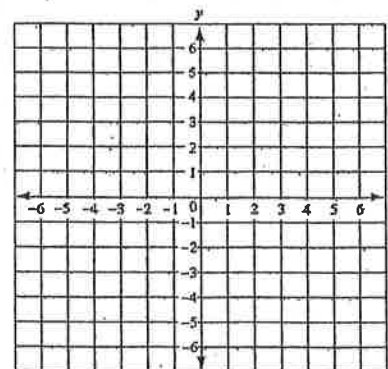
Ex2: Reflection about the y-axis

A) Quadrilateral ABCD



Original Point	Reflected Point
A(1, 4)	(-1, 4)
B(3, 2)	(-3, 2)
C(2, -2)	(-2, -2)
D(-3, 1)	(3, 1)

B) Quadrilateral HIJK



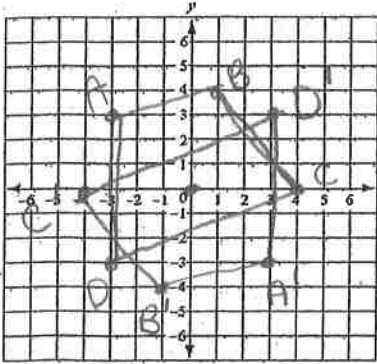
Original Point	Reflected Point
H(-2, 5)	(2, 5)
I(2, 5)	(-2, 5)
J(-4, -1)	(4, -1)
K(-4, 3)	(4, 3)

***Rule:** change sign of x $(x, y) \rightarrow (-x, y)$

Ex3: Reflection about the origin.

same as 180° rotation.

A) Quadrilateral ABCD

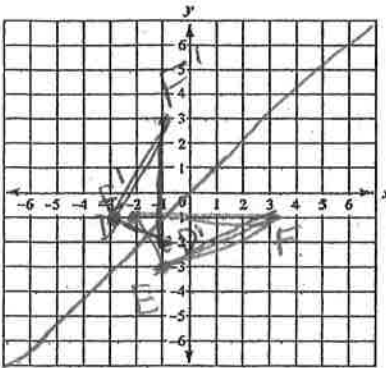


Original Point	Reflected Point
A(-3,3)	(3,-3)
B(1,4)	(-1,-4)
C(4,0)	(-4,0)
D(-3,-3)	(3,3)

*Rule: change signs x & y $(x, y) \rightarrow (-x, -y)$

Ex4: Reflection about the line $y = x$.

A) Triangle DEF



Original Point	Reflected Point
D(-2,-1)	(-1,-2)
E(-1,-3)	(-3,-1)
F(3,-1)	(-1,3)

*Rule: switch x & y $(x, y) \rightarrow (y, x)$