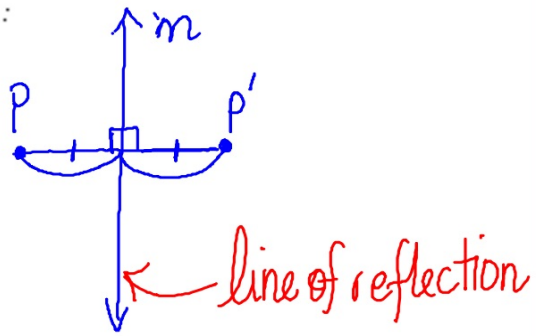
14-2 Reflections Date April 16

Definition of Reflection:

A reflection is a transformation that maps point P onto P′, across line m, which is the perpendicular bisector of $\overline{PP'}$.

Illustration:

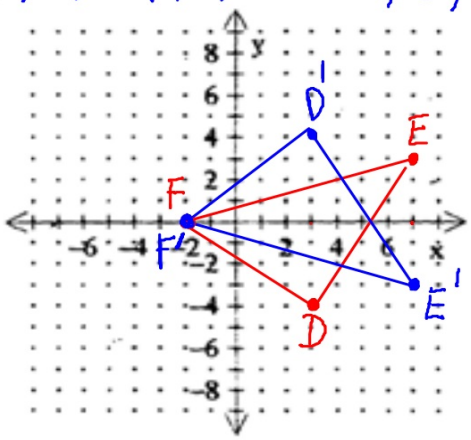


* A reflection is an isometry – it preserves distances.

Ex. 1 **Find the image of ΔDEF under reflection in the x-axis.**

$D(3, -4)$ $E(7, 3)$ $F(-2, 0)$

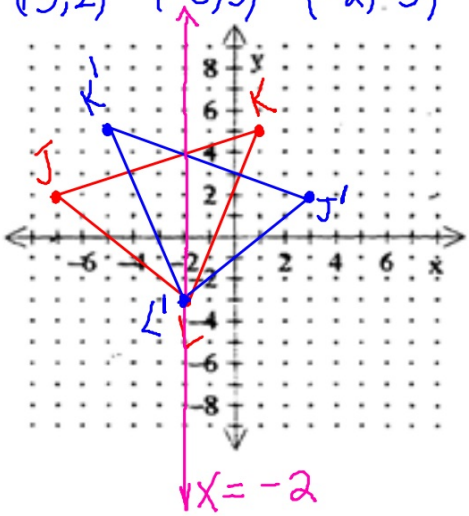
$D'(3,4)$ $E'(7,-3)$ $F'(-2, 0)$



Ex. 2 **Find the image of ΔJKL under reflection in the line $x = -2$.** vertical line

$J(-7, 2)$ $K(1, 5)$ $L(-2, -3)$

$J'(3,2)$ $K'(-5,5)$ $L'(-2,-3)$



Ex. 3 **Find the image of $\overline{NP}$ under reflection in the line $y = x$.**

$N\ (5, 2)$ $P\ (-4, 0)$

N' (2,5) P' (0,-4)

Switch x+y