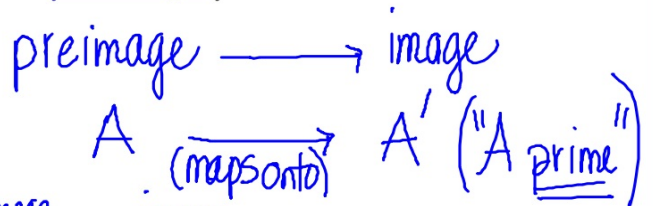


14-1 Mappings

April 16

A mapping is a correspondence between points.

A transformation is a mapping where each preimage point is mapped onto exactly one image point.



ex. 1  $\rightarrow$  Given: a transformation  $M: \overset{\text{preimage}}{(x, y)} \xrightarrow{\text{image}} (x-1, y+5)$

- a) Find the image of  $Q(-3, 4)$       b) Find the preimage of  $R'(16, -9)$

$$Q(-3, 4) \longrightarrow Q'(-4, 9)$$

$$R(17, -14) \longrightarrow R'(16, -9)$$

$$16+1, -9-5$$

$$x-1=16$$

$$y+5=-9$$

ex. 2 → Given: transformation  $K: (x, y) \rightarrow (x + 7, 3y - 1)$

a) Find the image of  $S(3, -11)$     b) Find the preimage of  $T'(-21, 26)$

$$S(3, -11) \rightarrow S'(10, -34)$$

$3+7 \quad 3(-11)-1$

$$T(\overset{x}{28}, \overset{y}{9}) \rightarrow T'(\overset{x+7}{-21}, \overset{3y-1}{26})$$

$x+7 = -21$   
 $3y-1 = 26$