UNIT 1 LESSON 3 REFLECTIONS

Reflections   Notation: r_{axis}
Reflections = flip or mirror image
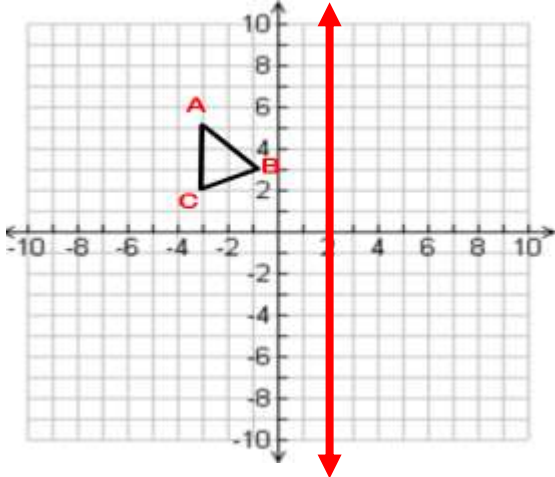
Reflection through line ℓ
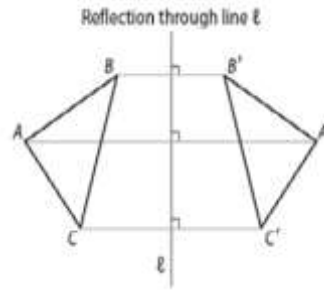
Rules:
through the x-axis:
$r_{x\text{-axis}}(x,y) = (x,-y)$
through the y-axis:
$r_{y\text{-axis}}(x,y) = (-x,y)$

Ex 1) Use points X(−4, −3), Y(2, 6), and Z(−1, −8). What are the coordinates of ΔXYZ reflected across the x-axis?

$R_{x\text{-axis}}(x,y) = (x,-y)$ Change the sign of "y"

X (−4, −3) ⟶ X'(−4, 3)
Y (2, 6)   Y'(2, −6)
Z(−1, −8)   Z'(−1, 8)

Ex 2) Use the coordinates to find reflection across the line x=2

Take each pre-image coordinate and count the number of units to the reflection line, then count the exact same number of units on the other side of the reflection line.

A (-3,5) ⟶ A' (7,5)

B (-1,3) ⟶ B' (3,3)

C (-3,2) ⟶ C' (7,2)

YOU TRY!!!
Ex 3) Use points Q(1, 4), R(3, 4), and S(3, 2). What are the coordinates of ΔQRS reflected across the y-axis?

Ex 4) Use the coordinates to find reflection across the line
y = −1