1. Write an equation of a line parallel to the line $20x - 4y = 16$ and goes through the point (6, 3)

same slope

$-4y = -20x + 16$

$\frac{-4y}{-4} = \frac{-20x}{-4} + \frac{16}{-4}$

$y = 5x - 4$

$y = mx + b$

$3 = 5(6) + b$

$3 = 30 + b$

$b = -27$

$y = 5x - 27$

2. Write an equation of a line perpendicular to the line $20x - 4y = 16$ and goes through the point (-10, 7)

opposite reciprocal

$m = -\frac{1}{5}$

$7 = -\frac{1}{5}(-10) + b$

$7 = 2 + b$

$b = 5$

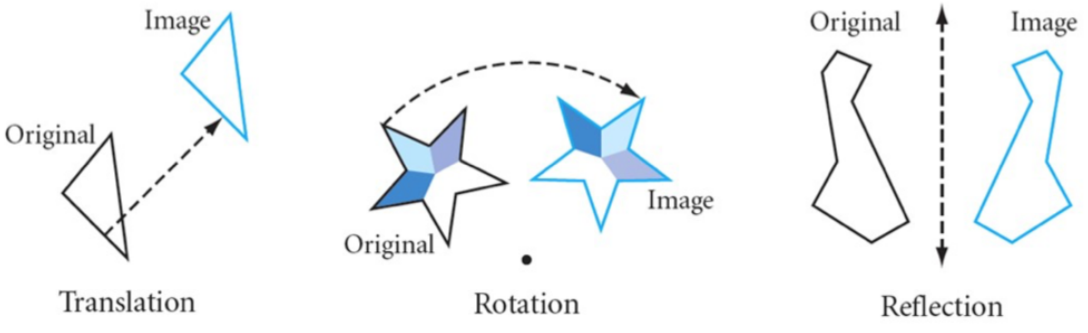
$y = -\frac{1}{5}x + 5$

1. 9 - Transformations

Transformation - a rule that assigns each point of a figure another point in a plane

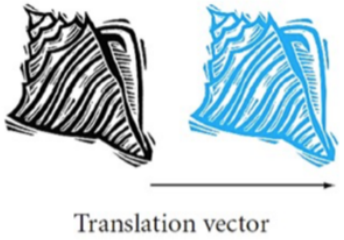
Rigid Transformation or Isometry - a transformation where the transformed image is congruent to the original figure

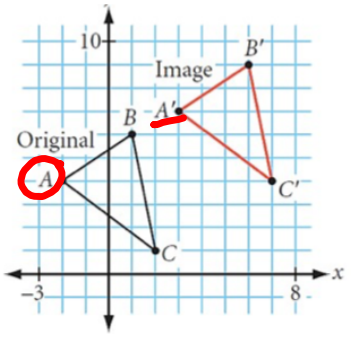
Three types of rigid transformation are translation, rotation, and reflection.

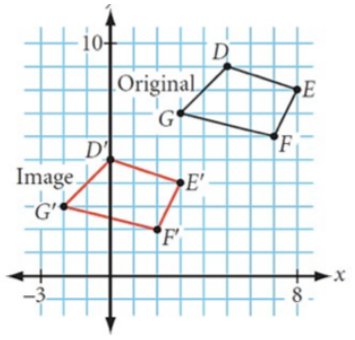


Translation - "sliding" a figure

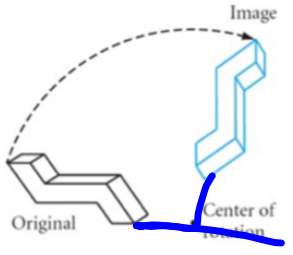
Translation Vector - describes the translation. Tells you which direction to move, and how far





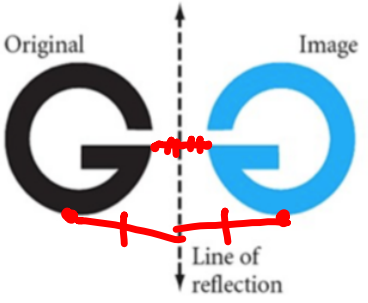


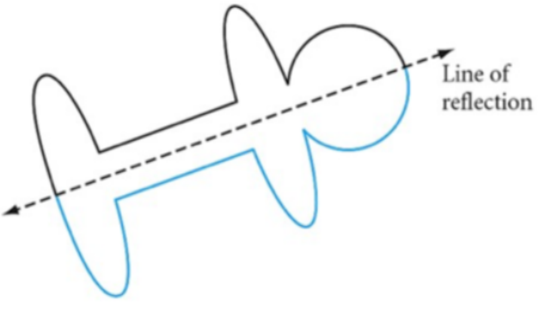
Rotation - A transformation where all points in the original figure rotate



Reflection - a type of transformation that produces a mirror image "Flip"

Line of reflection - the line where the mirror is place





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