Transformations of Functions

Due Date: 10/12/2022

Ex.1 Fill in the blanks.

Function Notation	Change in Coordinate Point	Transformation
$y = f(x) + c, c > 0$	$(x, y) \to (x, y + c)$	
$y = f(x) - c, c > 0$	$(x, y) \to (x, y - c)$	
$y = f(x + c), c > 0$	$(x, y) \to (x - c, y)$	
$y = f(x - c), c > 0$	$(x, y) \to (x + c, y)$	
$y = f(kx), k > 1$	$(x, y) \to (\frac{1}{k}x, y)$	
$y = f(\frac{1}{k}x), k > 1$	$(x, y) \to (kx, y)$	
$y = kf(x), k > 1$	$(x, y) \to (x, ky)$	
$y = \frac{1}{k}f(x), k > 1$	$(x, y) \to (x, \frac{1}{k}y)$	
$y = -f(x)$	$(x, y) \to (x, -y)$	
$y = f(-x)$	$(x, y) \to (-x, y)$	

Ex.2 Determine how the graphs below can be obtained from the graph of f.

(a) $y = f(\frac{1}{3}x) + 6$

(b) $y = f(\frac{1}{3}x) + 6$

(c) $y = -f(2x) + 7$