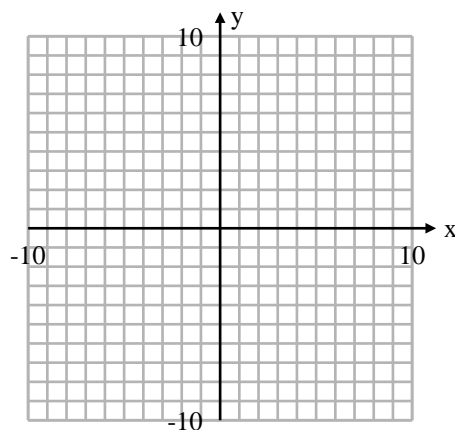


Draw an initial function of your choosing on the grid. It needs to have an x -intercept and a y -intercept. This will be $y = f(x)$. Use the same placement for each question. Transform $y = f(x)$ to make the new graph, $g(x)$. Sketch each transformation, label $f(x)$ and $g(x)$, and then fill in the chart. State domain and range in both set and interval notations.

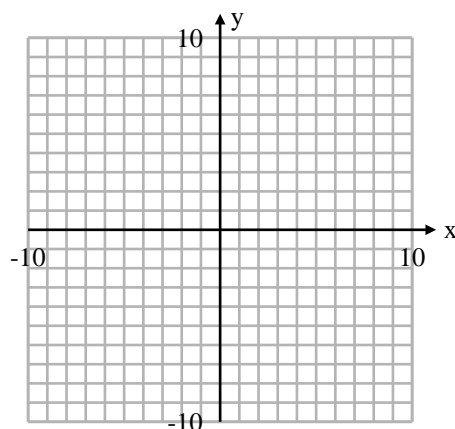
1. $g(x) = f(x+3)$

	$g(x)$
Domain	
Range	
x -intercept	
y -intercept	
Invariant Points	
Description	



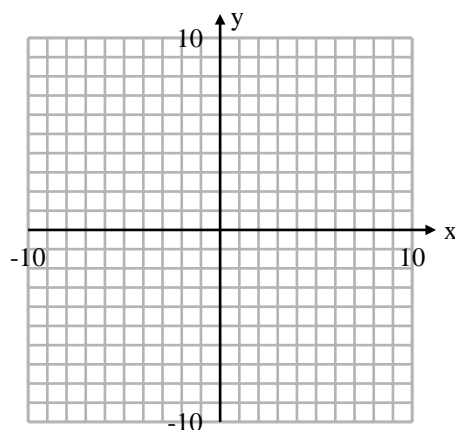
2. $g(x) + 6 = f(x)$

	$g(x)$
Domain	
Range	
x -intercept	
y -intercept	
Invariant Points	
Description	



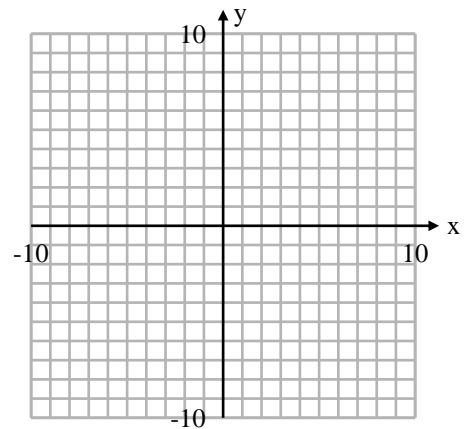
3. $g(x) = f(-x)$

	$g(x)$
Domain	
Range	
x -intercept	
y -intercept	
Invariant Points	
Description	



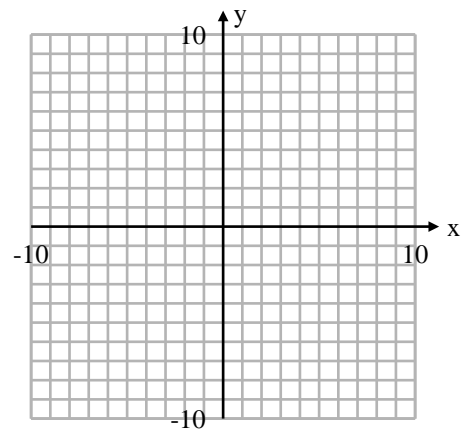
4. $(x, y) \rightarrow (x, -y)$

	$g(x)$
Domain	
Range	
x -intercept	
y -intercept	
Invariant Points	
Description	



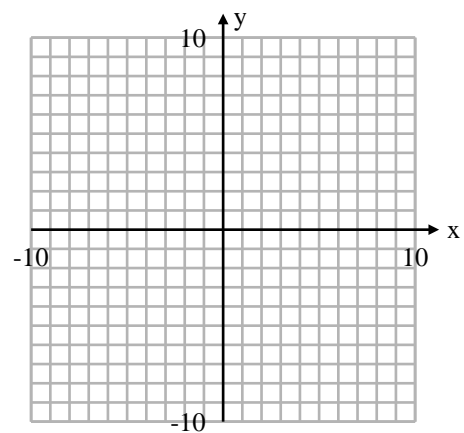
5. $(x, y) \rightarrow \left(x, \frac{y}{2}\right)$

	$g(x)$
Domain	
Range	
x -intercept	
y -intercept	
Invariant Points	
Description	



6. $g(x) = f(2x)$

	$g(x)$
Domain	
Range	
x -intercept	
y -intercept	
Invariant Points	
Description	



7. The domain of the graph $y = f(x)$ is $-2 \leq x \leq 6$. What would the domain of the graph $y = f(x + 6)$ become?
8. The range of the graph $y = f(x)$ is $-4 \leq y \leq 4$. What would the range of the graph $y = f(x) + 3$ become?
9. A function $y = f(x)$ has the range $-3 \leq y \leq 5$. What is the range of the function $y = -f(x)$?
10. A function $y = f(x)$ has the domain $-2 \leq x \leq 4$. What is the domain of the function $y = f(-x)$?
11. A function $y = f(x)$ has the domain $-2 \leq x \leq 4$. What is the domain of the function $y = f(2x)$?
12. A function $y = f(x)$ has the range $-3 \leq y \leq 5$. What is the range of the function $y = 3f(x)$?
13. The point $(2, -6)$ lies on the graph $y = f(x)$, name a point which must lie on $y = f(x - 3)$.
14. The point $(3, 4)$ is on the function $y = f(x)$, name a point which must lie on $y + 2 = f(x)$?

15. If the point $(4,7)$ lies on the graph of $y = f(x)$, name a point which must lie on $y = f(-x)$
16. If the point $(2,3)$ lies on the graph of $y = f(x)$, name a point which must lie on $y = -f(x)$
17. If the point $(4,5)$ lies on the graph of $y = f(x)$, name a point which must lie on $y = f(3x)$
18. If the point $(12,30)$ lies on the graph of $y = f(x)$, name a point which must lie on $3y = f(x)$
19. The point $(2,-3)$ lies on the graph $y = f(x)$, name a point which will exist if x is replaced with $x - 5$.
20. The point $(3,4)$ is on the function $y = f(x)$, name a point which will exist if y is replaced with $y + 7$.

21. If the point $(-2,-3)$ lies on the graph of $y = f(x)$, name a point which will exist if x is replaced with $(-x)$

22. If the point $(2,3)$ lies on the graph of $y = f(x)$, name a point which will exist if y is replaced with $(-y)$

23. If the point $(4,5)$ lies on the graph of $y = f(x)$, name a point which will exist if x is replaced with $3x$.

24. If the point $(12,30)$ lies on the graph of $y = f(x)$, name a point which will exist if y is replaced with $\frac{1}{6}y$.

25. If the point (x, y) lies on the graph $y = f(x)$, what point lies on the graph $y = 2f(5x)$