C_03 Inverses and Key

Wednesday, September 12, 2018 7:35 PM

C_03 Inverses

C_03 INVERSES

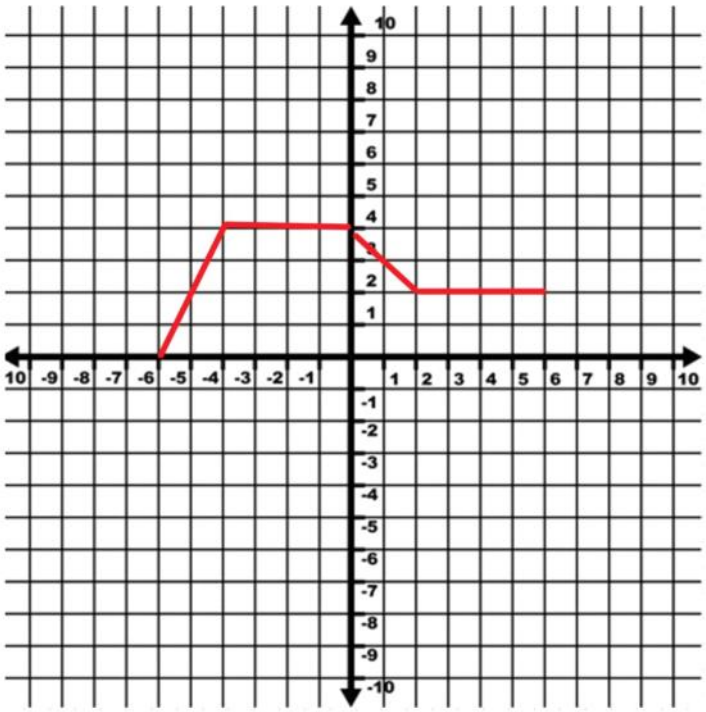
Consider the graph of the relation shown.

a) Sketch the graph of the inverse relation.

b) State the domain, range and intercepts of the relation and its inverse.

c) Determine whether the relation and its inverse are functions.

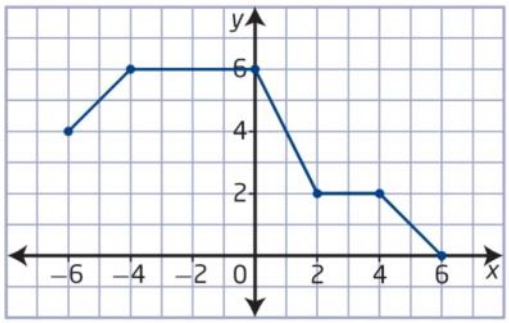
d) State the coordinates of any invariant points.



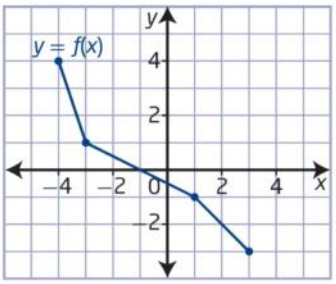
	Original Relation	Inverse Relation
Domain		
Range		
x-intercept		
y-intercept		
Is it a function?		
invariant points		

Which of these graphs do you think will have an inverse that is a function?
How can you tell, without having to sketch the inverse graph?

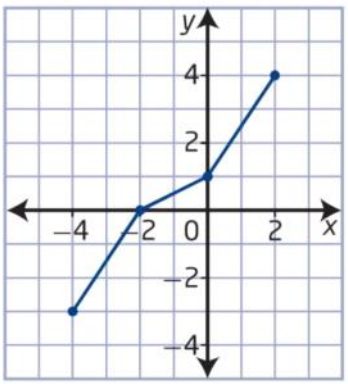
a)



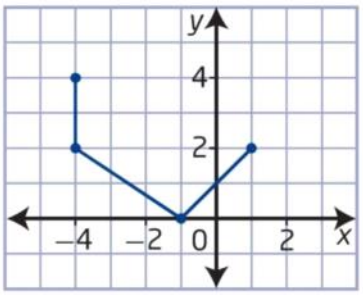
b)



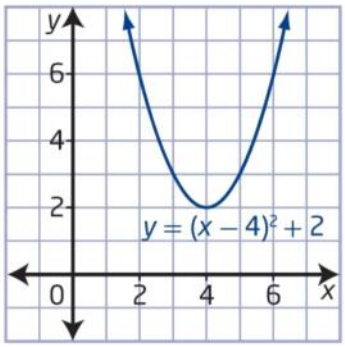
c)



d)



e)



C_03 INVERSES

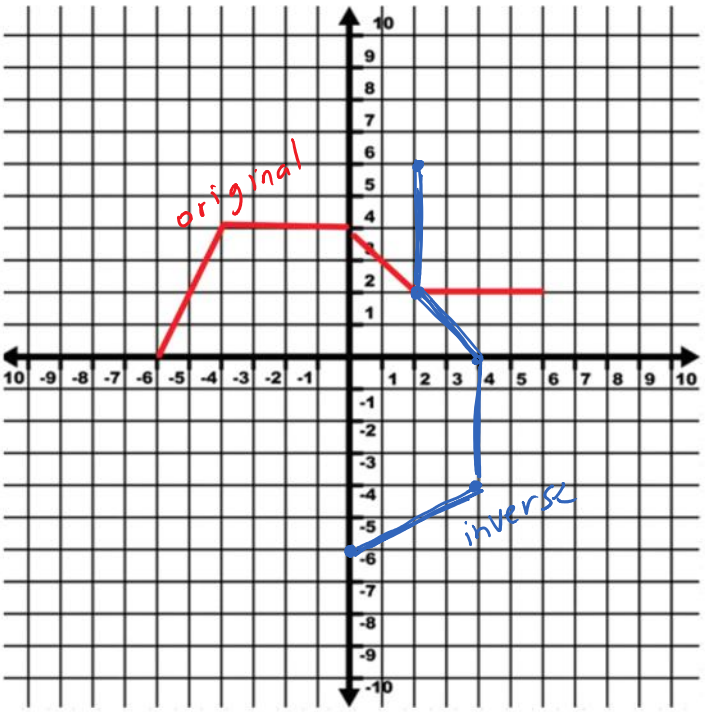
Consider the graph of the relation shown.

a) Sketch the graph of the inverse relation.

b) State the domain, range and intercepts of the relation and its inverse.

c) Determine whether the relation and its inverse are functions.

d) State the coordinates of any invariant points.



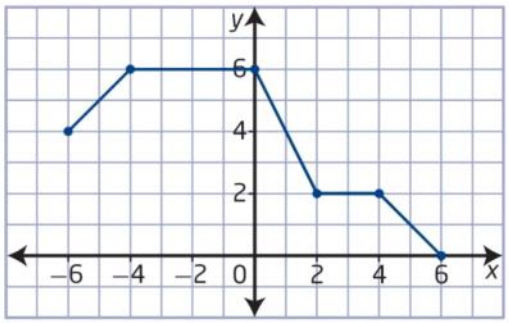
x	y
-6	0
-4	4
0	4
2	2
6	2

inverse	
0	-6
4	-4
4	0
2	2
2	6

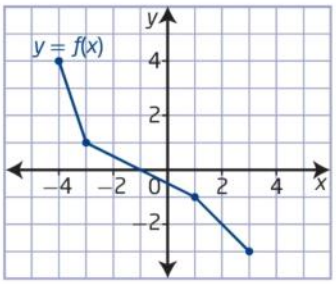
	Original Relation	Inverse Relation
Domain	$\{x \mid -6 \le x \le 6,\ x \in \mathbb{R}\}$	$\{x \mid 0 \le x \le 4,\ x \in \mathbb{R}\}$
Range	$\{y \mid 0 \le y \le 4,\ y \in \mathbb{R}\}$	$\{y \mid -6 \le y \le 6,\ y \in \mathbb{R}\}$
x-intercept	(-6, 0)	(4, 0)
y-intercept	(0, 4)	(0, -6)
Is it a function?	yes	
invariant points	(2, 2)	

Which of these graphs do you think will have an inverse that is a function?
How can you tell, without having to sketch the inverse graph?

a)

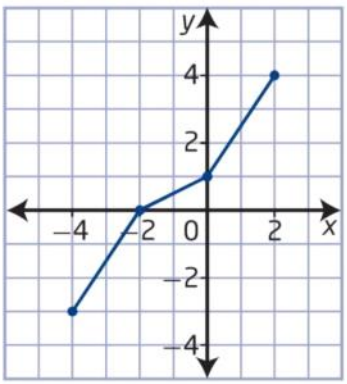


b) inverse will be a function

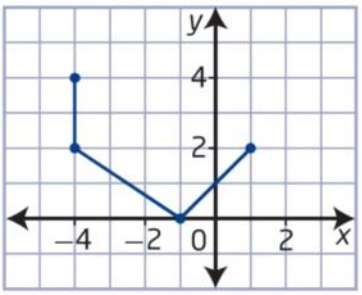


c)

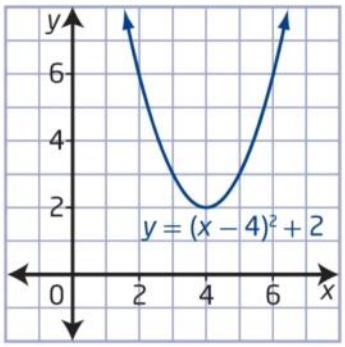
inverse will be a function



d)



e)



If the original graph has any points that have the same y-value as each other (on the same HORIZONTAL LINE), then its inverse will <u>not</u> be a function