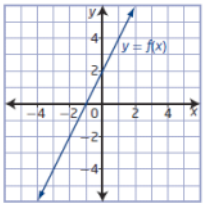
p 020, Your Turn

Your Turn

a) Given the graph of $y = f(x)$, graph the functions $y = -f(x)$ and $y = f(-x)$.

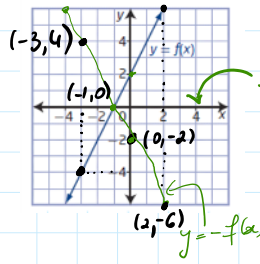
b) Show the mapping of key points on the graph of $y = f(x)$ to image points on the graphs of $y = -f(x)$ and $y = f(-x)$.

c) Describe how the graphs of $y = -f(x)$ and $y = f(-x)$ are related to the graph of $y = f(x)$. State any invariant points.



(a) (I) $y = -f(x)$

is a vertical reflection into the x-axis (*)

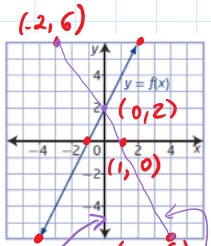


b) key points

(-1,0) = invariant, x-intercept
(0,-2) = y-intercept

(II) $y = f(-x)$

is a horizontal reflection into the y-axis (**)



b) key points:

(0,2) = y-intercept, invariant
(1,0) = x-intercept

c) covered above

- described as reflections (vertical (*), horizontal (**))
- invariants stated above for each in section (b).