

Exercise 10

The graph of f is given. Draw the graphs of the following functions.

(a) $y = f(x - 8)$

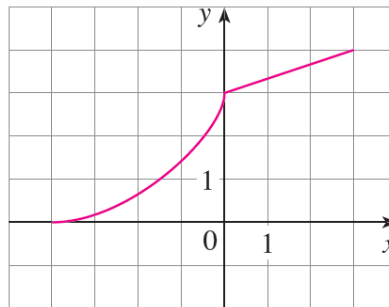
(b) $y = -f(x)$

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

(d) $y = \frac{1}{2}f(x) - 1$

(e) $y = f^{-1}(x)$

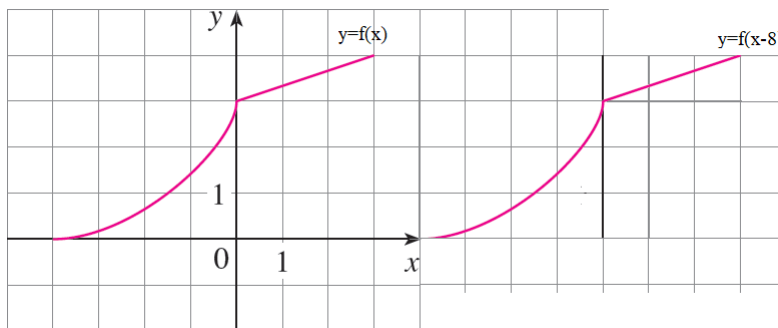
(f) $y = f^{-1}(x + 3)$



Solution

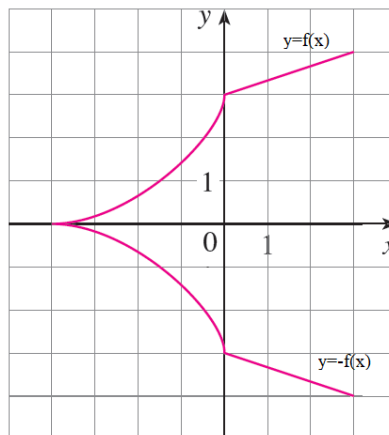
Part (a)

Shift the graph over by 8 units.

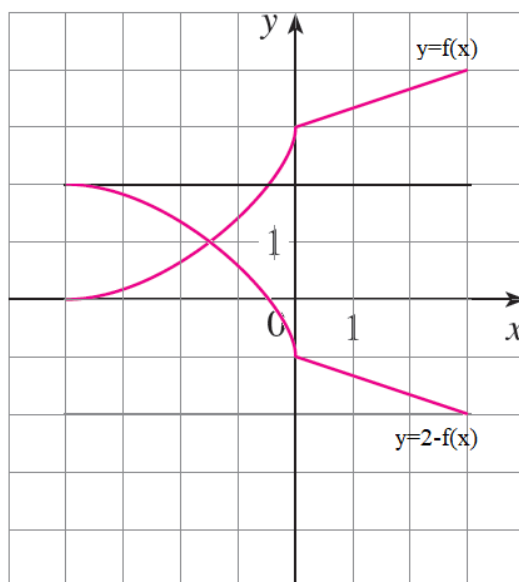


Part (b)

Reflect the graph over the x -axis.

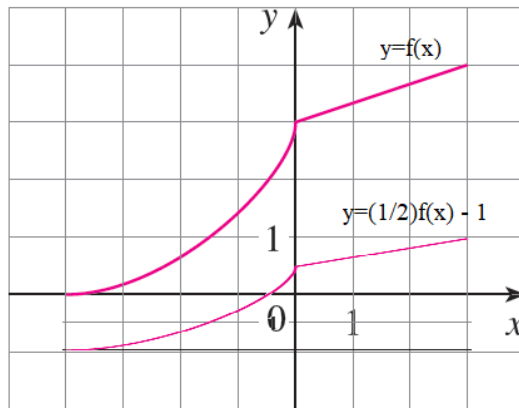
**Part (c)**

Reflect the graph over the x -axis and then shift it upward 2 units.

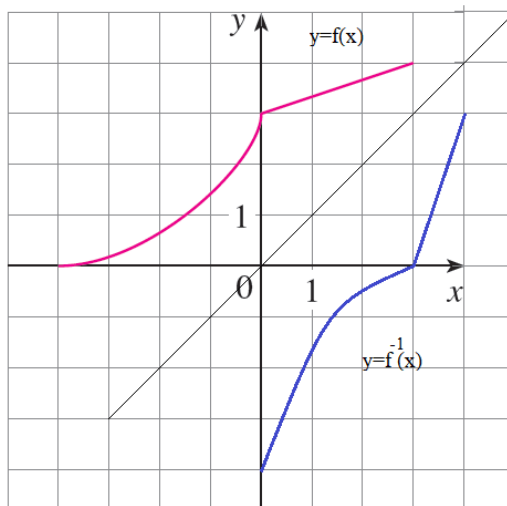


Part (d)

Vertically compress the graph by a factor of 2 and then shift it downward by 1 unit.

**Part (e)**

Reflect the graph over the $y = x$ line.



Part (f)

Reflect the graph over the $y = x$ line and then shift it to the left by 3 units.

