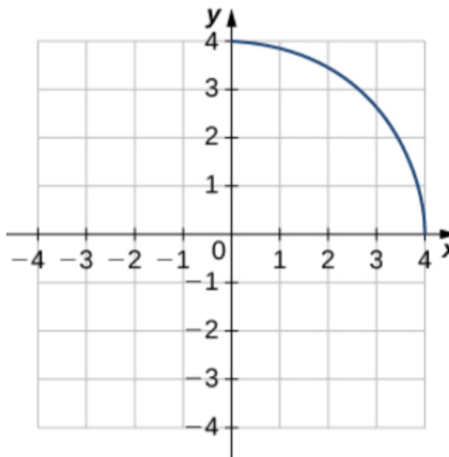
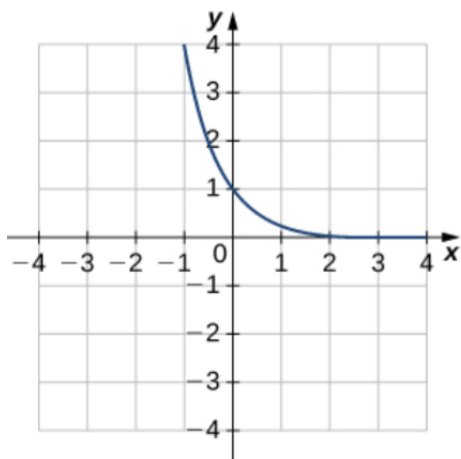


IN-CLASS ACTIVITY : INVERSE FUNCTIONS

1. Below are the graphs of two functions. Draw the graph of their inverse.



2. Compute the derivative of the following functions :

i) $f(x) = \arcsin(x^2)$

v) $f(x) = \frac{1}{\arctan(x)}$

ii) $f(x) = \arccos(\sqrt{x})$

vi) $f(x) = \arctan(\sqrt{4 - x^2})$

iii) $f(x) = (1 + \arctan(x))^3$

vii) $f(x) = x \arccos(x)$

iv) $f(x) = \arccos(2x) \arcsin(2x)$

3. Find the equation of the tangent line at $y = 2$ to the graph of the inverse of $f(x) = \frac{4}{1+x^2}$.

4. Find the equation of the tangent line at $y = 8$ to the graph of the inverse of $f(x) = \sqrt{x-4}$.

5. It is known that $f(\pi) = 0$ and $f'(\pi) = -1$. Find the derivative of $f^{-1}(y)$ at the point $y = 0$.