The graph of a function is given. Choose the answer that represents the graph of its derivative.

1) \( y = x^2 \)

- \( \frac{dy}{dx} \) is linear
- slope \( \frac{dy}{dx} \) < 0 from \((-\infty, 0)\) the graph of \( f(x) \)
- min/max on \( f \) should be on \( x \)-axis
- slope \( f'(x) \) > 0 the graph of \( f'(x) \) is above the \( x \)-axis
- \( y' \) should be linear
- \( y' \) is decreasing

A)

B)
$f' = \text{constant}$
Sketch the graphs of $f(x)$ and $f'(x)$ on the same coordinate plane as the given graph of $f(x)$.

- Max/min on $f(x)$
  - $x = -2, 0, 2$

- Domain and Range
  - $(-\infty, -2)$ decreasing below x-axis
  - $(-2, 0)$ increasing above x-axis
  - $(0, 2)$ decreasing below x-axis
  - $(2, \infty)$ increasing above x-axis

- X-intercepts