Name: _____

Quiz 7 ♡

MATH 200
September 26, 2022

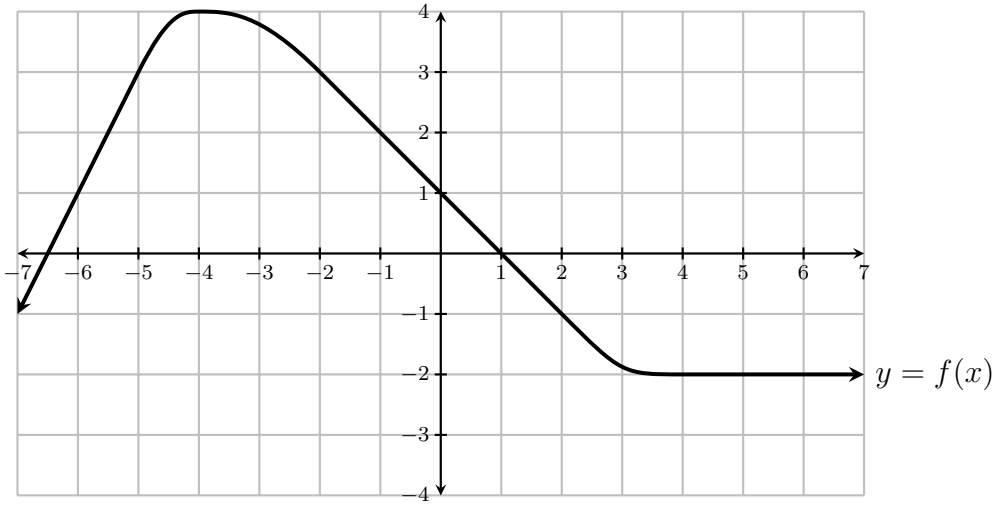
1. (4 pts.) Find the derivatives of the following functions:

   (a) $f(x) = x^3 + e^3$

   (b) $f(x) = \dfrac{3e^x}{2\pi + 3} + x$

2. (8 pts.) Find all x for which the tangent to the graph of $f(x) = x^3 + 3x^2 + 3x$ at $(x, f(x))$ has slope $m = 12$.

3. (8 pts.) The graph of a function $f(x)$ is shown below.
   Using the same coordinate axis, sketch the graph of its derivative $f'(x)$



Name: _____

Quiz 7 ♣

MATH 200
September 26, 2022

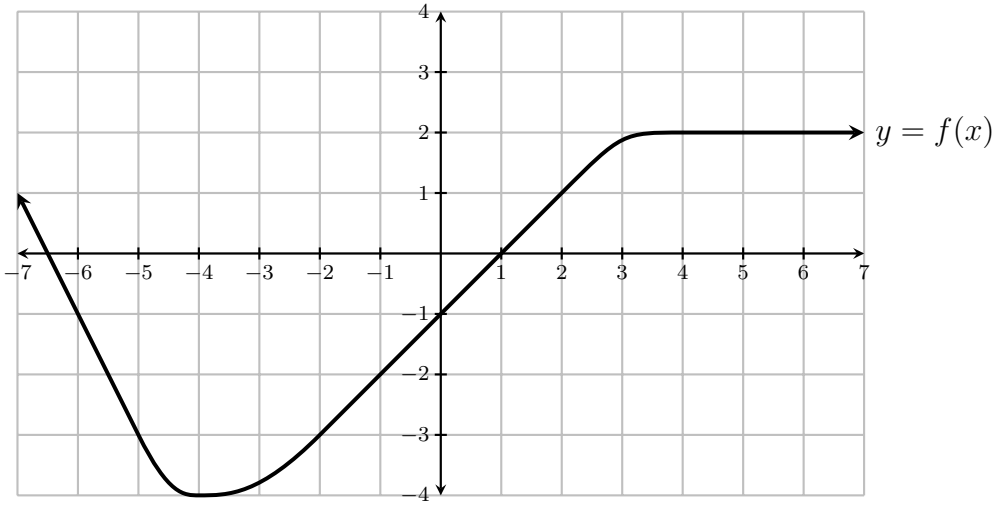
1. (4 pts.) Find the derivatives of the following functions:

   (a) $f(x) = 5e^x + 2e^2$

   (b) $f(x) = \dfrac{2e^x}{1+\sqrt{2}}$

2. (8 pts.) Find all x for which the tangent to the graph of $f(x) = x^3 + 3x^2 + 3$ at $(x, f(x))$ has slope $m = -3$

3. (8 pts.) The graph of a function $f(x)$ is shown below.
   Using the same coordinate axis, sketch the graph of its derivative $f'(x)$.



Name: _____

Quiz 7 ♢

MATH 200
September 26, 2022

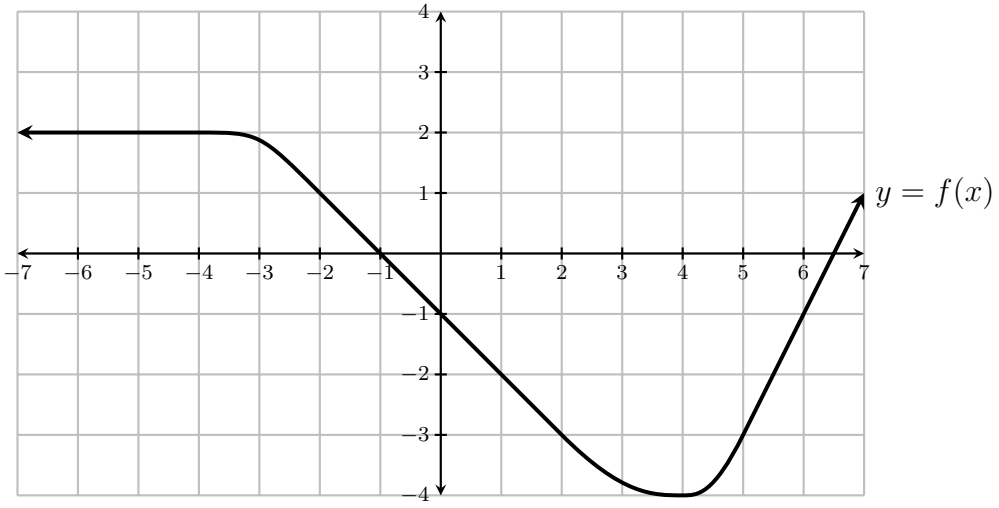
1. (4 pts.) Find the derivatives of the following functions:

   (a) $f(x) = \pi e^x + e$

   (b) $f(x) = \dfrac{1+e}{x}$

2. (8 pts.) Find all x for which the tangent to the graph of $f(x) = 4x - e^x$ at $(x, f(x))$ has slope 3.

3. (8 pts.) The graph of a function $f(x)$ is shown below.
   Using the same coordinate axis, sketch the graph of its derivative $f'(x)$.



Name: _____

Quiz 7 ♠

MATH 200
September 26, 2022

1. (4 pts.) Find the derivatives of the following functions:

   (a) $f(x) = \dfrac{e}{x}$

   (b) $f(x) = \sqrt{e} - 3e^x$

2. (8 pts.) Find all x for which the tangent to the graph of $f(x) = \dfrac{1}{x} + 6x$ at $(x, f(x))$ has slope $m = 2$.

3. (8 pts.) The graph of a function $f(x)$ is shown below.
   Using the same coordinate axis, sketch the graph of its derivative $f'(x)$