

**Name** \_\_\_\_\_ **No calculators. Present neatly. Score** \_\_\_\_\_.

1)

a) Use the limit definition to find the derivative function of  $f(x)$ .

$$f(x) = \frac{1-x}{x+3}$$

b) Use the result from part a) to find the equation of a tangent line to the graph of  $f(x)$  at the point  $(-2, 3)$ .

c)

Sketch the graph of  $f(x)$  and the tangent line you found in part b).

Your work should start with a definition. Do not skip steps or use shortcuts.

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Your work:

**Name** \_\_\_\_\_ **No calculators. Present neatly. Score** \_\_\_\_\_.

1)

a) Use the limit definition to find the derivative function of  $f(x)$ .

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

b) Use the result from part a) to find the equation of a tangent line to the graph of  $f(x)$  at the point  $(0, 2)$ .

c) Sketch the graph of  $f(x)$  and the tangent line you found in part b).

Your work should start with a definition. Do not skip steps or use shortcuts.

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Your work: