

MAT 136 (Calculus I), Prof. Jim Swift
Worksheet worth 5 class points

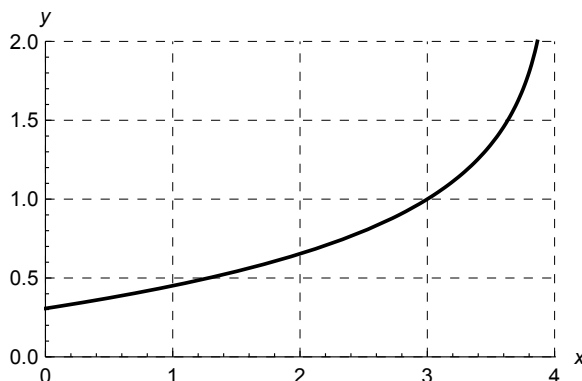
Name: _____

Any resources (calculators, notes, classmates, laptop) are allowed. A calculator is not needed.

1. (a) The graph $y = f(x)$ is shown. Using an ID card or credit card, draw an accurate tangent line to the graph at $x = 3$.

(b) Use the drawing from part (a) to estimate the slope of the tangent line at $x = 3$.

(c) Find an equation to the tangent line you drew in part (a). Use the $y = m(x - x_0) + y_0$ form. If you did not find an estimate for the slope in part (b), just use “ m ” in your equation.



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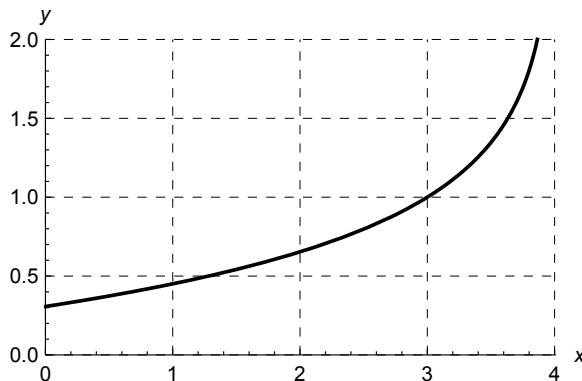
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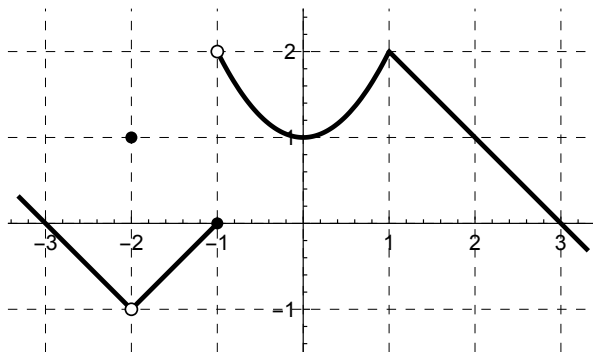
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(c) Find an equation to the tangent line you drew in part (a). Use the $y = m(x - x_0) + y_0$ form. If you did not find an estimate for the slope in part (b), just use “ m ” in your equation.



2. The graph of a function f is shown below. Compute the following, based on the graph. (If the limit does not exist, write 'DNE'. If the function is not defined, write 'undefined'.)



$$\lim_{x \rightarrow -2} f(x) =$$

$$f(-2) =$$

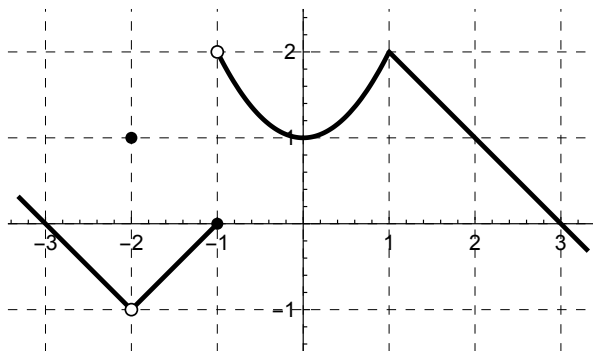
$$\lim_{x \rightarrow -1} f(x) =$$

$$f(-1) =$$

$$\lim_{x \rightarrow 1} f(x) =$$

$$f(1) =$$

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$$\lim_{x \rightarrow -1} f(x) =$$

$$f(-1) =$$

$$\lim_{x \rightarrow 1} f(x) =$$

$$f(1) =$$