SHAPE OF A GRAPH

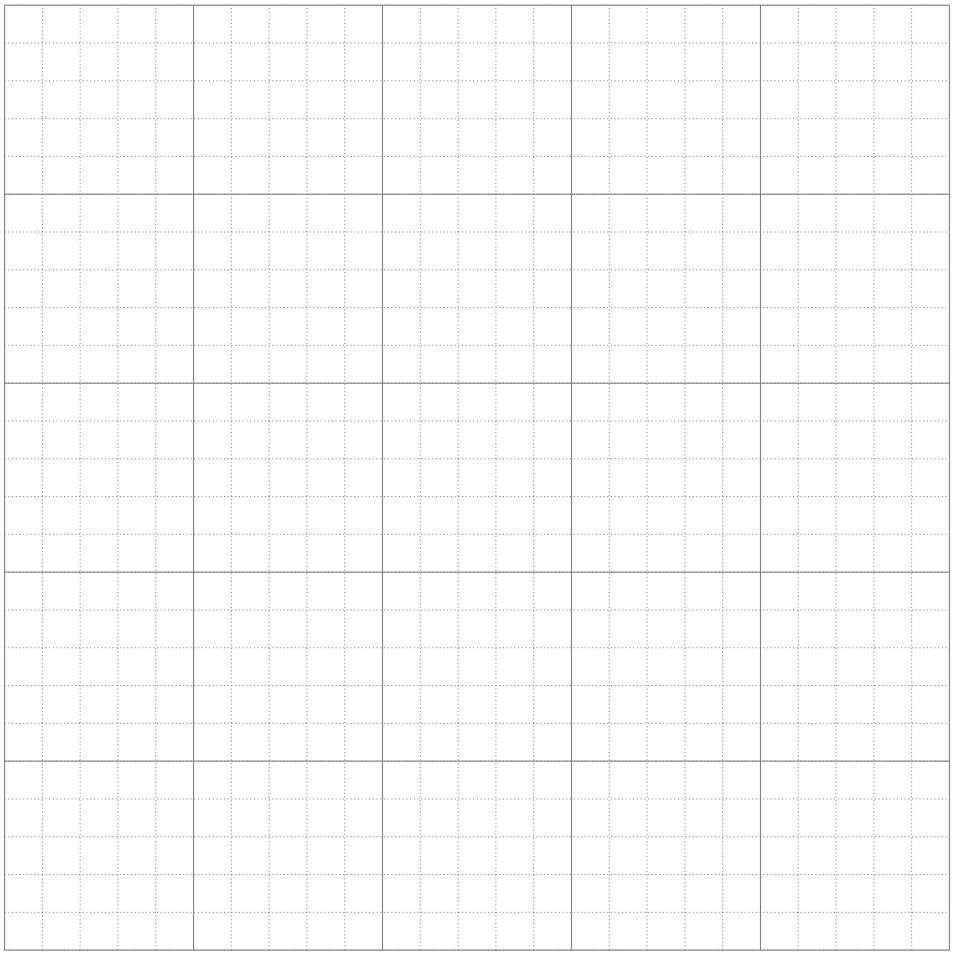
TEXT: 3.3, 3.5

LAST NAME	FIRST NAME	DATE

1 (10 points)**.** For the given function,

- describe the domain
- find vertical and horizonal asymptotes, describe the end behavior
- find intervals of increase and decrease
- find local extrema
- describe intervals of concavity and find inflection points
- sketch the graph that shows everything you've found

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



2 (10 points)**.** For the given function,

- describe the domain
- find vertical and horizonal asymptotes, describe the end behavior
- find intervals of increase and decrease
- find local extrema
- describe intervals of concavity and find inflection points
- sketch the graph that shows everything you've found

$$g(x) = x - \frac{1}{6}x^2 - \frac{2}{3}\ln(x)$$

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