Problem 1 (6 points). Consider the graph below and answer the following questions.

(a) Where is the function concave up? Express your answer in interval or inequality notation. 
(do not include inflection points in your answer)

(b) Where is the function concave down? Express your answer in interval or inequality notation.
(do not include inflection points in your answer)
Problem 2 (4 points). Let

\[ u(a) = \frac{3a^2}{a + 1} \quad \text{and} \quad v(b) = \sqrt{b - 1} \]

(a) What is \( u(v(2)) \)? Show your work.

(b) What is the formula for \( (u \circ v)(y) \)? Show your work.

*Hint: Recall that \( (u \circ v) \) is mathematical shorthand for “the composition of \( u \) with \( v \)”*