

5. (5 pts.) A function f satisfies the following conditions: $f(2) = 3$, $f'(2) = -2$, and $f''(x) > 0$ for all x .

(a) Circle each of the following numbers that is a possible value for $f(1)$.

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(b) Explain the reason for your answers.

6. (7 pts.) Ebenezer borrows \$10,000 to help pay the cost of his college expenses. No interest is charged on the loan while Ebenezer is in school. After graduation, the loan starts accruing interest at an annual rate of $r\%$ per year. He plans to pay off the loan by making equal monthly payments over a 10 year period. Let $C(r)$ denote the total cost of Ebenezer repaying the loan when the interest rate is $r\%$.

(a) What are the units of $C'(r)$?

(b) What is the practical meaning of the equation $C'(5) = 586$?