

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [4 points] Consider the function $f(x) = 2x^2 - 7x$. Compute and simplify the following expressions:

(a) $f(a) =$

(b) $f(a + h) =$

(c) $\frac{f(a + h) - f(a)}{h} =$

2. [4 points] Find the domains of the following functions:

(a) $f(x) = \frac{x+1}{x^2-4}$

(b) $g(x) = \sqrt{7-2x}$.

3. [4 points] A travel agency charges a planning fee for arranging vacations for groups of travelers. If the group has up to 10 individuals, the fee per person is \$15.00. For groups of more than 10 individuals, the agency charges only \$12.00 per person (for every person in the group). Write a function $T(n)$ that gives the total fee charged as a function of the number n of people in a group.