Show all work, clearly and legibly, to receive full credit. Correct spelling, organization of your solution, and proper use of mathematical notation all count. You may use a calculator, but no notes, books, or other resources. Good luck!

1.) (4 pts.) Explain why $3x^{1/2} + 4x^5$ is not a polynomial.

Every exponent in a polynomial needs to be a whole number ($0, 1, 2, 3, \ldots$).

The fraction $\frac{1}{2}$ is not a whole number.

2.) (4 pts.) Suppose that $B(t)$ is the balance in a bank account (in dollars) $t$ years after the account was established. What is the meaning of $B'(t)$?

$B'(t)$ is the rate of change of the amount of money in the bank account.

3.) (2 pts.) Simplify using the FOIL method: $(2a + 3b)(5c + 7d)$.

$10ac + 14ad + 15bc + 21bd$