

2. [12 points] While working on their team homework, Alex and Chris find that they have evaluated the same integral—but that they each used a different method, and got different answers! Alex found

$$\int (2x - 1)(3 + x)^4 dx = (2x - 1) \left(\frac{1}{5}(3 + x)^5 \right) - \frac{1}{15}(3 + x)^6 + C.$$

while Chris had

$$\int (2x - 1)(3 + x)^4 dx = \frac{1}{3}(3 + x)^6 - \frac{7}{5}(3 + x)^5 + C,$$

- (a) [6 of 12 points] Considering the form of the solution that Alex found, what method is it most likely that Alex used? Use this method and verify that you obtain the same solution.

- (b) [6 of 12 points] Considering the form of the solution that Chris found, what method is it most likely that Chris used? Use this method and verify that you obtain the same solution.