(7.4) Integration of Rational Functions by Partial Fractions

Full Name: _____

1. Use a partial fraction decomposition to evaluate each of the following indefinite integrals.

   (a) $\frac{1}{10}\ln|x-5| - \frac{1}{10}\ln|5+x| + C$

   (b) $3\ln|x-4| - 7\ln|x-2| + C$

   (c) $-3\ln|x| - 2x^{-1} + 9\ln|x+3| + C$

   (d) $\ln|x| - 2\ln|x-2| - 4(x-2)^{-1} + C$

   (e) $-2\ln|x| + \frac{3}{2}\ln|x^2+4| - \frac{5}{2}\tan^{-1}\left(\frac{x}{2}\right) + C$