## Quiz 8

Show all your work. Reasonable supporting work must be shown for any partial credit.

1. [3] Write out the form of the partial fraction decomposition of the function (as done in WebHW7-4\#1-3). You do not earn any extra marks for finding the numerical values of the coefficients.

$$
\frac{x-20}{x^{2}+x-56}
$$

2. For each of the following, identify the technique you would use to find the indefinite integral. For example, if you think substitution would work, write "substitution" and identify what $u$ would be.
(a) [2] (Activity: Rational Functions)

$$
\int \frac{2 t}{3 t^{2}-1} d t
$$

(b) [2] (Activity: Rational Functions)

$$
\int \frac{2}{x^{2}+1} d x
$$

3. [3] (WrittenHW7-4\#70) Consider the volume of the solid whose base is bounded by $y=0, x=0, x=1$ and $f(x)=\frac{1}{x^{2}+3 x+2}$. The cross sections perpendicular to the $x$-axis form squares. Set up the definite integral that would find the volume.
Note that $f$ is graphed on the right. Do not compute this!!!

