172 Quiz 5 Name: _____

Using the following integral formulas

$$\int \frac{du}{\sqrt{u^2+a^2}} = \ln(u+\sqrt{u^2+a^2}), \int \frac{du}{\sqrt{a^2-u^2}} = \sin^{-1}(\frac{u}{a}), \int \frac{du}{u^2+a^2} = \frac{1}{a}\tan^{-1}(\frac{u}{a})$$

Compute the following integrals:

1. $\int \frac{dx}{\sqrt{x^2+6x+10}}$

2. $\int \frac{dx}{\sqrt{6x-x^2}}$

3. $\int \frac{dx}{2x^2+6x+5}$