LAST NAME: FIRST NAME:

MATH 65B - Spring 2018

Groupwork 3: February 1, 2018

1. State which trigonometric substitution would be used to solve the following integrals. (*Note:* You do not need to compute the integrals for this problem.)

(a) $\displaystyle\int \frac{1}{x^2\sqrt{x^2+4}}\,dx$

(b) $\displaystyle\int \frac{1}{\sqrt{16-x^2}}\,dx$

(c) $\displaystyle\int \frac{x^3}{\sqrt{x^2-16}}$

2. Compute the following indefinite integral.

$$\int \frac{x^3}{\sqrt{x^2+9}}\,dx$$

Please, show all work.

3. Compute the following indefinite integral.

$$\int \frac{\sqrt{x^2-9}}{x^3}\,dx$$

Please, show all work.

4. Compute the following indefinite integral.

$$\int \frac{x-9}{x^2+3x-10}\,dx$$

5. Compute the following indefinite integral.

$$\int \frac{-x^2-x+9}{(x+2)(x^2+3)}\,dx$$

Please, show all work.