

Date: \_\_\_\_\_

### 6.5 Logistic Growth Practice

1. Consider the function  $f(x) = \frac{1}{x^2 - kx}$ , where  $k$  is a nonzero constant. Let  $k = 6$ , find  $\int f(x) dx$ .
2. Find the area between the curve  $f(x) = \frac{25}{x^2 + 3x - 4}$  and the  $x$ -axis from  $x = 3$  to  $x = 5$ .
3. The velocity function of a particle is described by  $v(t) = \frac{\cos t}{\sin^2 t - \sin t}$ . Find the position function of the particle.