

## 6.10 Integrating with Long Division and Completing the Square

CA #1

Calculus

Name: \_\_\_\_\_

Find the indefinite integral.

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

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

3.  $\int \frac{5x^2-31x-20}{5x+4} dx$

4.  $\int \frac{20x^3-4x^2-67x+44}{10x-7} dx$

5.  $\int \frac{1}{x^2-12x+36} dx$

6.  $\int \frac{1}{\sqrt{-x^2-4x-3}} dx$

## Answers to 6.10 CA #1

1. $3x^2 - 6x + 6 \ln x + 1  + C$	2. $\tan^{-1}(x + 3) + C$	3. $\frac{1}{2}x^2 - 7x + \frac{8}{5} \ln 5x + 4  + C$
4. $\frac{2}{3}x^3 + \frac{1}{2}x^2 - 6x + \frac{1}{5} \ln 10x - 7  + C$	5. $-\frac{1}{(x-6)} + C$	6. $\sin^{-1}(x + 2) + C$