

Math 180  
Fall, 2008

Name \_\_\_\_\_

Homework #15  
Due Monday, November 10  
No late papers accepted! No excuses!

1. Use Newton's Method to find the two negative zeroes of  $f(x) = x^3 - 3x - 1$  to five decimal places.

Iterative formula \_\_\_\_\_

1<sup>st</sup> negative zero

2<sup>nd</sup> negative zero

$x_0$  \_\_\_\_\_

$x_0$  \_\_\_\_\_

$x_1$  \_\_\_\_\_

$x_1$  \_\_\_\_\_

$x_2$  \_\_\_\_\_

$x_2$  \_\_\_\_\_

$x_3$  \_\_\_\_\_

$x_3$  \_\_\_\_\_

Final Answer:

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2. Find the most general anti-derivative.

a)  $\int \sin^2 x dx$

b)  $\int \frac{\csc x \cot x}{2} dx$

c)  $\int \frac{t\sqrt{t} + \sqrt{t}}{t^2} dt$

d)  $\int (x-1)(x+2) dx$

e)  $\int \frac{1}{2\sqrt{x}} dx$

3. Find the position function given

$$a = e^t$$

$$v(0) = 20$$

$$s(0) = 5$$