

Experiment 4

>> **MATLAB Code**

```
syms x
y1 = 1 + x.^2;
p = ezplot(y1);
set(p, 'color', 'g');
grid;
yd1 = diff(y1,x);
s1 = subs(yd1,x,2);
y2 = s1*(x-2)+5;
hold on;
title('Tangent to curve and Radius of curvature')
xlabel('x-axis');
ylabel('y-axis');
q = ezplot(y2);
set(q, 'color', 'r');
text(2,5, '(2,5)');
legend('1 + x^2','4x - 3');
hold off;
yd2 = diff(yd1,x);
s2 = subs(yd2,x,2);
roc = ((1+(s1^2))^1.5)/s2
```

>> **Command Window**

Experiment_4

roc =

(17*17^(1/2))/2

>> **Graph**

