EGN3204 — Engineering Software Tools Pensacola (82151) Section, Fall 2014 Problem Set #9 (October 30th, 2014 Lecture) (Word, Matlab R2013a)

1. The matlab code for problems 1 - 5 is given in Figure 1 and the output for problems 1 - 5 is given in Figure 2 - 6 respectively.

```
%James Davis, EGN3204, Fall 2014
% MATLAB m file for problem 1 - 5, Project 9
%Clears the input
clear all;
%Creates functions
syms x y n;
f1 = int((3*x^4+2)/(x^2-3),x);
f2 = int(((3*x+1)^(1/5))/(x^2+2)^(1/4));
f3 = int(int(x*y^2, x, 2*y, y^2), y, 2, 4);
f4 = int((log(5*x)^3/x^2), x, 2, 10);
f5 = limit(-(x+4)/(x^2+6*x), x, -6, 'left');
f6 = limit((x+4)/(x^2+6*x),x,-6,'right');
f7 = symsum(2/(6^n), 0, inf);
f8 = symsum(10^n/(sym('n!')),1,inf);
f9 = subs(2*x^3.5 - 2*x^2.5 - 4*x + 5*x^{-1.5}, -2);
f10 = subs(exp(-sqrt(x)) + acos(x) + sqrt(x), -1.5);
%display functions
%Problem 1, display using pretty
disp 'Problem 1'
pretty(f1)
pretty(f2)
%Problem 2, display using eval
disp 'Problem 2'
eval(f3)
eval(f4)
%Problem 3, display default
disp 'Problem 3'
f5
```

```
f6
```

```
%Problem 4, display using eval
disp 'Problem 4'
eval(f7)

eval(f8)

%Problem 5, disply using eval because matlab > R2013a
disp 'Problem 5'
eval(f9)

eval(f10)
```

Figure 1. The code for problems 1 --- 5

```
Problem 1

/ 1/2 \
1/2 | 3 x |
29 3 atanh| ----- |
\ 3 / 3
9 x - ----- + x
3

/ 1/5
| (3 x + 1)
| ----- dx
/ 2 1/4
(x + 2)
```

Figure 2. The output for problem 1.

```
Problem 2

ans = 764.3429

ans = 10.4393
```

Figure 3. The output for problem 2.

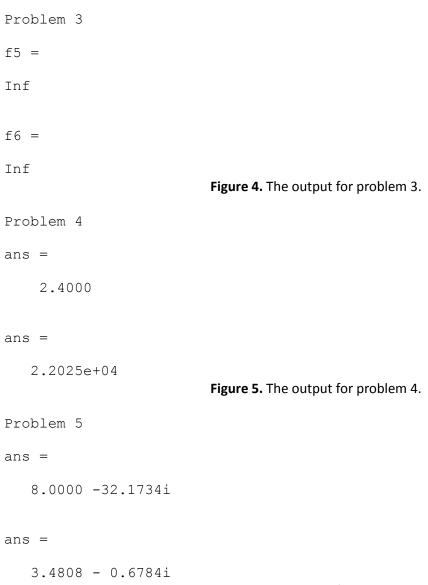


Figure 6. The output for problem 5.