a)

-->deff('y=f(x)','y=(x.^(1/3))+(x.^(1/2))')

-->dy=numderivative(f,64)

dy =

0.0833333

b)

--> deff('y=f(x)','y=(sqrt(16+3\*x))./(x)')

--> dy=numderivative(f,3)

dy =

-0.4555556

c)

--> deff('y=f(x)','y=((x.^2)+2)./(2-(x.^2))')

--> dy=numderivative(f,2)

dy =

4.0000000

d)

--> deff('y=f(x)','y=(sqrt(5-2\*x))./(2\*x+1)')

--> dy=numderivative(f,(1./2))

dy =

-1.2500000

e)

--> deff('y=f(x)','y=(x\*sqrt(3+2\*x))')

--> dy=numderivative(f,3)

dy =

4.0000000

f)

--> deff('y=f(x)','y=(sqrt((4\*x+1)./(5\*x-1)))')

--> dy=numderivative(f,2)

dy =

-0.0555556

g)

deff('y=f(x)','y=(sqrt((x.^2-5)./(10-x.^2)))')

--> dy=numderivative(f,3)

dy =

7.5000001

h)

--> deff('y=f(x)','y=(log(x.^2+2))')

--> dy=numderivative(f,2)

dy =

0.6666667

i)

--> deff('y=f(x)','y=x\*exp(-2\*x)')

--> dy=numderivative(f,0.5)

dy =

4.584D-12

j)

--> deff('y=f(x)', 'y=(log(x^2))./(x)')

--> dy = numderivative(f, 4)

dy =

-0.0482868

k)

--> deff('y = f(x)', 'y = x .\* sin(x / 2)')

--> dy = numderivative(f, 2)

dy =

1.3817733

l)

--> deff('y = f(x)', 'y = log(cos(x))')

--> dy = numderivative(f,0.5)

dy =

-0.5463025

m)

--> deff('y = f(x)', 'y=(sin(x)).\*(cos(2\*x))')

--> dy = numderivative(f,1)

dy =

-1.7551399

n)

--> deff('y = f(x)', 'y = 5\*exp(x./2)\*sin(%pi\*x./2)')

--> dy = numderivative(f,2)

dy =

-21.349336

o)

--> deff('y = f(x)', 'y=log(sqrt(tan(x)))')

--> dy = numderivative(f,%pi./4)

dy =

1.0000000

p)

--> deff('y=f(x)','y=x\*(log(sqrt(x+3)))')

--> dy = numderivative(f,6)

dy =

1.4319456

q)

--> dy = numderivative(f,0.5)

dy =

1.1009490

r)