

1.

a) actual: 0.192259

from newton-cotes: 0.192245

b) actual: -0.17682

from newton-cotes: -0.17682

2.

Using newton-cotes:

a)

n	Integral values
—	—
2	2.58369640324748
3	2.58578905163154
4	2.58796845680603
5	2.58825471195293

b)

n	Integral values
—	—
2	-0.739105339105339
3	-0.736427696078431
4	-0.734156668376617
5	-0.734079516059092

3.

Using Gaussian quadrature:

a) n=2: 0.66584

n=4: 0.66349

b) n=2: 1.963

n=4: 1.9334

4.

Using Gauss-Legendre quadrature:

a)

n	Integral values
—	—
2	0.74659468828286
4	0.746824468130994
6	0.746823587694851

b)

n	Integral values
—	—
2	1.26315789473684
4	2.04728500909327
6	2.41169053902476