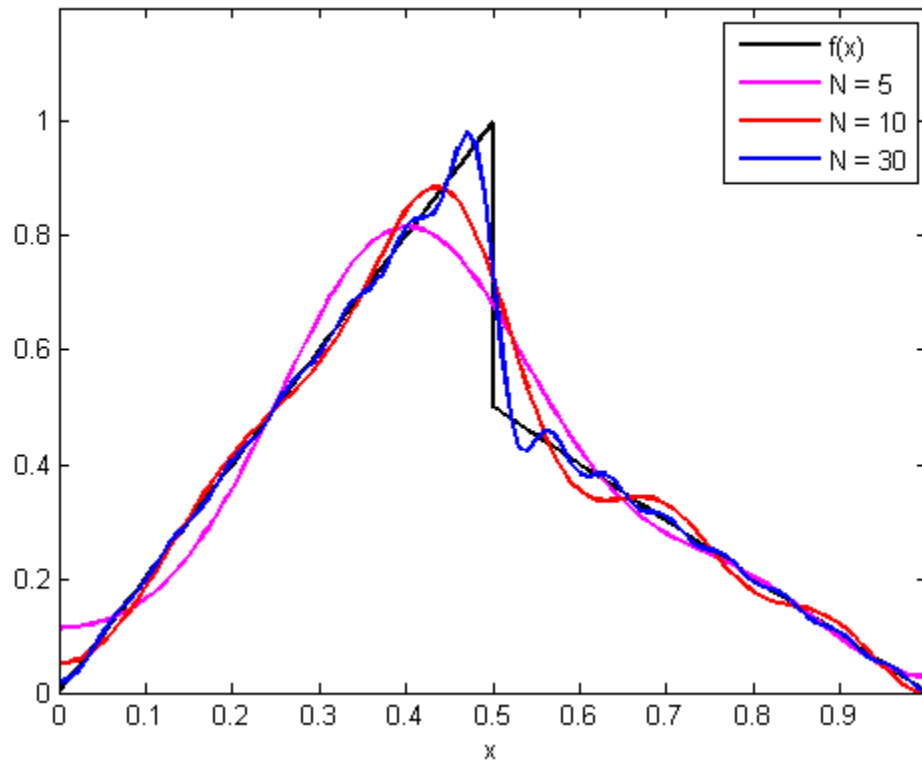


Prob 1
(a)

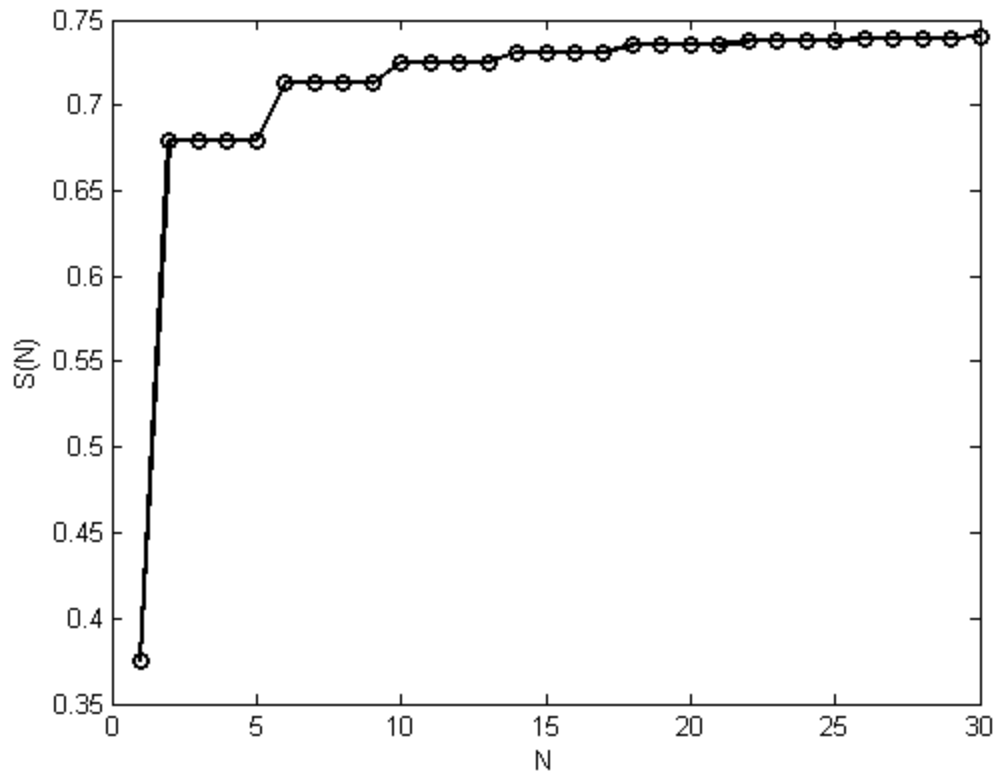


(b)

Values of $F_c(x)$:

	N = 5	N = 10	N = 30	Exact
at $x = 0.35$	0.7725	0.7033	0.6996	0.7
(% error)	(10.3%)	(0.47%)	(0.057%)	
at $x = 0.49$	0.7028	0.7675	0.8736	0.98
(% error)	(28.3%)	(21.7%)	(10.8%)	

Prob 1(c)



$S(N) \rightarrow 0.75$ at large N .

Prob 2

$$u(x, t) = 1 + \sin(2x + 32t) \exp(-4t) + \cos(3x + 243t) \exp(-9t)$$

Prob 3

$$u(x, y, t) = \sin(2\pi x) \sin(3\pi y) \exp(-40 \pi^2 t)$$