1. Call: 18.5035, Put: 3.03106
2. For a monotonically increasing range of underlying values of S, for example 10, 11, 12, …, 50, the call prices are:

S=10, 0.00826235

S=11, 0.011227

S=12, 0.0148535

S=13, 0.0192158

S=14, 0.0243891

S=15, 0.03045

S=16, 0.0374762

S=17, 0.0455465

S=18, 0.054741

S=19, 0.0651405

S=20, 0.076827

S=21, 0.0898835

S=22, 0.104394

S=23, 0.120442

S=24, 0.138115

S=25, 0.157497

S=26, 0.178677

S=27, 0.201742

S=28, 0.226781

S=29, 0.253883

S=30, 0.283138

S=31, 0.314637

S=32, 0.348471

S=33, 0.384732

S=34, 0.423512

S=35, 0.464906

S=36, 0.509007

S=37, 0.555908

S=38, 0.605706

S=39, 0.658495

S=40, 0.714373

S=41, 0.773434

S=42, 0.835777

S=43, 0.901499

S=44, 0.970699

S=45, 1.04347

S=46, 1.11993

S=47, 1.20015

S=48, 1.28425

S=49, 1.37233

S=50, 1.46448

1. For a monotonically increasing range of underlying values of sig, for example 0.01, 0.02, …, 0.30, the call prices are:

13.2768

13.5187

13.8967

14.384

14.9553

15.5902

16.2728

16.9914

17.7371

18.5035

19.2855

20.0794

20.8821

21.6914

22.5052

23.3222

24.141

24.9605

25.7799

26.5984

27.4153

28.23

29.042

29.851

30.6563

31.4578

32.2551

33.0479

33.8358

34.6188