

Chapter 16
Option Valuation

7. $d_1 = 0.3182$ $N(d_1) = 0.6248$

$d_2 = -0.0354$ $N(d_2) = 0.4859$

$Xe^{-rT} = \$47.56$

$C = S_0 N(d_1) - Xe^{-rT} N(d_2) = \8.13

8. $P = \$5.69$

This value is from our Black-Scholes spreadsheet, but note that we could have derived the value from put-call parity:

$P = C - S_0 + PV(X) = \$8.13 - \$50 + \$47.56 = \5.69

10.

- a. C falls to \$5.5541
- b. C falls to \$4.7911
- c. C falls to \$6.0778
- d. C rises to \$11.5066
- e. C rises to \$8.7187

12. Holding firm-specific risk constant, higher beta implies higher total stock volatility. Therefore, the value of the put option increases as beta increases.