

90 2012

$$3. \text{ NPV} = -5,000,000 + \left(\frac{150,000}{r(\frac{1}{2}) - .01} \right) \left(1 - \left(\frac{1.01}{1+r(\frac{1}{2})} \right)^{65} \right) \left(\frac{1}{1+r(\frac{1}{2})} \right)^7 \quad (42)$$

Key to 9:45 b
+1:15 b

$$r(1) = .00051 + 1.5(.07) = .10551 \quad (18)$$

$$r(\frac{1}{2}) = (1+r(1))^{\frac{1}{2}} - 1 \quad (15)$$

$$P = PV(K) (1 - N(d_2)) - S (1 - N(d_1))$$

$$d_1 = \frac{\ln \left(\frac{S}{PV(K)} \right) + \frac{\sigma \sqrt{T}}{2}}$$

$$d_2 = d_1 - \sigma \sqrt{T}$$

$$S^x = \left(\frac{150,000}{r(\frac{1}{2}) - .01} \right) \left(1 - \left(\frac{1.01}{1+r(\frac{1}{2})} \right)^{65} \right) \left(\frac{1}{1+r(\frac{1}{2})} \right)^7 - \left(\frac{150,000}{r(\frac{1}{2}) - .01} \right) \left(1 - \left(\frac{1.01}{1+r(\frac{1}{2})} \right)^{17} \right) \left(\frac{1}{1+r(\frac{1}{2})} \right)^7$$

$$= \left(\frac{150,000}{r(\frac{1}{2}) - .01} \right) \left(1 - \left(\frac{1.01}{1+r(\frac{1}{2})} \right)^{48} \right) \left(\frac{1}{1+r(\frac{1}{2})} \right)^{24}$$

$$PV(K) = \frac{150,000}{(1.00244)^{26}} \quad (20)$$

$$\sigma = .45$$

$$T = 2$$

$r(\frac{1}{2}) =$ same as problem 3
 $N(d_1) + N(d_2)$ from tables or Excel