10





Subs t = 0, T = 180 so ln(160) = c

ln( T – 20) – ln(160) = kt

ln T – 20 = kt

 160

Subs t = 1, T = 100 so ln 80 = k and k = -0.6931

 160

ln T – 20 = 0.6931 t EQU 1

 160

 T – 20 = 160 e 0.6931t

 T = 20 + 160 e 0.6931t

Subs T = 35 in EQU 1: ln 15 = 0.6931t

 160

so t = 3.415 hours from when the cake was taken out of the oven before it can be iced. (3.415 hours ≈ 3 hr 25 min)

10



10

