

185) If the FOMC decreases the federal funds target rate, then banks are more likely to lend to other banks.

(E) is the correct answer choice.

186) (B) Banks lend their excess reserves to other banks at the federal funds rate.

192) $QR = d = \text{simple discount rate}$
based on 360-day year

$$\therefore 95000 = 100000 \left(1 - d \cdot \frac{180}{360}\right)$$

$$\Rightarrow d = 0.1 = QR$$

$$\text{For } j, \quad 100000 = 95000 (1+j)^{\frac{180}{365}}$$

$$\Rightarrow j = 0.01961 \dots$$

$$\therefore j - QR = .0096$$

193) For the Canadian T-Bill,
quoted rate = i = simple interest rate
based on 365-day year

$$\therefore 100000 = 98000 \left(1 + i \cdot \frac{120}{365}\right)$$

$$\Rightarrow i = .0620748\dots$$

$$j = \text{aeir} \Rightarrow 100000 = 98000(1+j)^{\frac{120}{365}}$$

$$\Rightarrow j = .06337\dots$$

For the U.S. T-Bill,
quoted rate = d = simple discount rate
based on 360-day year

$$\therefore 98000 = 100000 \left(1 - d \cdot \frac{120}{360}\right)$$

$$\Rightarrow d = .06$$

$$j = \text{aeir} \Rightarrow 100000 = 98000(1+j)^{\frac{120}{365}} \quad \left. \vphantom{100000 = 98000(1+j)^{\frac{120}{365}}} \right\} \begin{array}{l} \text{as} \\ \text{above} \end{array}$$

$$\Rightarrow j = .06337\dots$$

Statement D is not true.

194) In order to account for the fact that some borrowers default on their loans, the bank must charge more than 5% compounded continuously. Let the rate it actually charges be denoted by $r = .05 + \delta$ (δ = "credit spread")
 $\therefore$ per dollar lent, after 5 years the bank will have

$$e^{5r} \quad (\text{with probability } .993)$$

$$.3e^{5r} \quad (\text{with probability } .007)$$

$\therefore$ the bank is expected to have

$$.993e^{5r} + .007(.3e^{5r}) = .9951e^{5r}$$

After 5 years, the bank wants to have $e^{.05 \cdot 5} = e^{.25}$

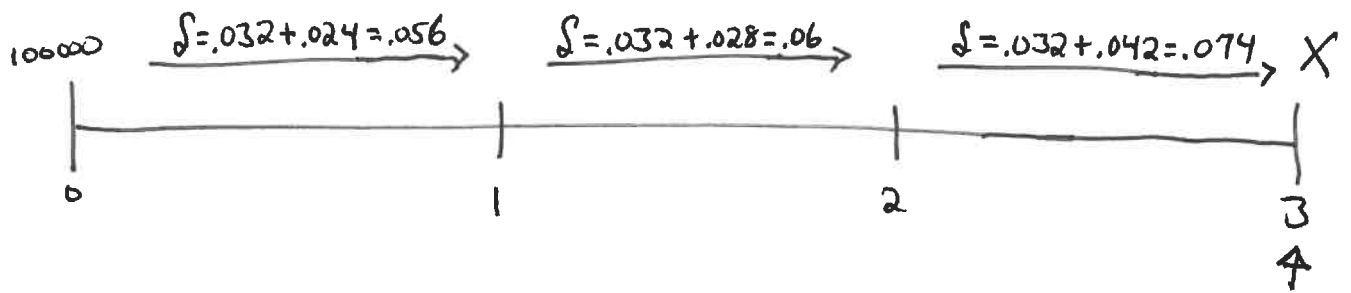
$$\therefore \underline{e^{.25}} = .9951e^{5r} = .9951e^{5(.05 + \delta)} = \underline{.9951e^{.25}e^{5\delta}}$$

Dividing by $e^{.25}$, we get

$$1 = .9951e^{5\delta}$$

$$\therefore \delta = \frac{1}{5} \ln\left(\frac{1}{.9951}\right) = .000982 \dots$$

195)



$$X = 100000 e^{.056} \cdot e^{.06} \cdot e^{.074} = 120,924.959\dots$$