

24. Solution: E

For the amortization method, payment  $P$  is determined by  $20000 = X a_{\overline{20}|0.065}$ , which yields (using calculator)

$$X = 1815.13.$$

For the sinking fund method, interest is  $.08(2000) = 1600$  and total payment is given as  $X$ , the same as for the amortization method. Thus the sinking fund deposit  $= X - 1600 = 1815.13 - 1600 = 215.13$ .

The sinking fund, at rate  $j$ , must accumulate to 20000 in 20 years. Thus,  $215.13 s_{\overline{20}|j} = 20000$ . which yields (using calculator)  $j = 14.18$ .