

Question #199

Answer: D

$$P = 1000P_{40}$$

$$(235 + P)(1 + i) - 0.015(1000 - 255) = 255 \quad [\text{A}]$$

$$(255 + P)(1 + i) - 0.020(1000 - 272) = 272 \quad [\text{B}]$$

Subtract [A] from [B]

$$20(1 + i) - 3.385 = 17$$

$$1 + i = \frac{20.385}{20} = 1.01925$$

Plug into [A] $(235 + P)(1.01925) - 0.015(1000 - 255) = 255$

$$235 + P = \frac{255 + 11.175}{1.01925}$$

$$P = 261.15 - 235 = 26.15$$

$$1000 {}_{25}V = \frac{(272 + 26.15)(1.01925) - (0.025)(1000)}{1 - 0.025}$$

$$= 286$$