Question # 48
Answer: D

$$\mu(0) = \frac{.4(0)+.1(1)+.1(2)}{.6} = .5; \quad \mu(1) = \frac{.1(0)+.2(1)+.1(2)}{.4} = 1$$

$$\mu = .6(.5)+.4(1) = .7$$

$$a = .6(.5^2)+.4(1^2)-.7^2 = .06$$

$$v(0) = \frac{.4(0)+.1(1)+.1(4)}{.6} - .5^2 = \frac{7}{12}; \quad v(1) = \frac{.1(0)+.2(1)+.1(4)}{.4} - 1^2 = .5$$

$$v = .6(7/12)+.4(.5) = 11/20$$

$$k = v/a = 55/6; \quad Z = \frac{10}{10+55/6} = \frac{60}{115}$$

Bühlmann credibility premium = $\frac{60}{115}\frac{10}{10} + \frac{55}{115}(.7) = .8565$.