

Question #17

Key: D

$$\hat{H}(3) = 5/30 + 9/27 + 6/32 = 0.6875$$

$$\hat{V}ar(\hat{H}(3)) = 5/(30)^2 + 9/(27)^2 + 6/(32)^2 = 0.02376$$

The 95% log-transformed confidence interval is:

$$\hat{H}(3)U, \text{ where } U = \exp\left(\pm \frac{1.96\sqrt{.02376}}{.6875}\right) = \exp(\pm 0.43945)$$

The confidence interval is:

$$[0.6875 \exp(-0.43945), 0.6875 \exp(0.43945)] = [0.443, 1.067].$$