19-3.
$$E(\hat{I}_n) = \frac{b-a}{n} E\left(\sum_{i=1}^{n} f(a+(b-a)U_i)\right)$$

$$= (b-a)E(f(a+(b-a)U_i))$$

$$= (b-a)\int_0^1 f(a+(b-a)u)du$$

$$= I.$$

19-5. (a) 35. (b) 4.75. (c) 5 (at time 14).

19-7. (a) $X_1 = 1$, $U_1 = 1/16$, $X_2 = 6$, $U_2 = 6/16$. (b) Yes. (c) $X_{150} = 2$.

19-9. (a) $X = -(1 = \lambda) \ln(1 - U)$. (b) 0.693.

19-11. (a) $X = -2\sqrt{1-2U}$, if $0 < U < 1/2$, (b) $X = 0.894$.

$$= 2\sqrt{2U-1}, \quad \text{if } 1/2 < U < 1.$$

19-13. (a) $X = \sigma[-\ln(1 - U)]^{1/\beta}$. (b) 1.558.

19-15. $\sum_{i=1}^{12} U_i - 6 = 1.07$. **19-17.** $X = -(1 = \lambda) \ell U_1 U_2 = 0.841$.

19-19. $X = 5$ trials. **19-21.** [−3:41, 4:41].

19-23. [80.4, 119.6]. **19-25.** Exponential with parameter 1; $-V(U_i) = -1/12$.