

Section 5.1 Problems

- a) $1/5$ or 0.2 b) $7/10$ or 0.7 c) $3/40$ or 0.075
- Approximately 26%
- $3/4$ or 0.75
- $\frac{\text{No. of squares between 24 and 30 yrs}}{\text{No. of squares under curve}} \approx \frac{12}{31.5} \approx 0.38$; therefore, approximately 38%
- a) $1/10$ b) 0.8
- a) Approximately $\frac{8}{29} \times 100\% \approx 28\%$ b) Approximately 40 minutes
- $1/4$ or 0.25
- a) $2/9$ or 0.22 b) $1/9 \approx 0.1111$
- $\frac{\text{No. of squares between 75 and 80 min}}{\text{No. of squares under curve}} \approx \frac{12.5}{35} \approx 0.36$; therefore, approximately 36%
- $15/28 \approx 0.5357$

Sections 5.2 – 5.4 Problems

- a) $A = \text{normalcdf}(-1.47, 0, 0, 1) \approx 0.4292$ b) $a = \text{invNorm}(.898, 0, 1) \approx 1.2702$
c) $h = \text{invNorm}(.985, 0, 1) \approx 2.1701$
- a) $\text{normalcdf}(-10, 1.55, 0, 1) \approx 0.9394$ b) $\text{normalcdf}(-2.5, -1.75, 0, 1) \approx 0.0338$
- $\text{invNorm}(.65, 0, 1) \approx 0.3853$
- a) i) 0.2707 ii) 0.0548 b) 673.78 hours
- a) 0.8043 b) 260.11 days c) 0.0568
d) $P(\text{a pregnancy} < 273) \approx 0.84134474$
 $P(3 \text{ out of } 4 < 273) = \text{binompdf}(4, .84134474, 3) \approx 0.3780$

6. a) 0.3944 b) 0.9761 c) 0.2578 d) 0.1019
 e) 0.9798 f) 0.5948 g) 0.7673 h) 0.1230
7. 1.6449
8. a) 0.5927 b) 410.64 minutes
9. a) $A = \text{normalcdf}(-2.35, 0, 0, 1) \approx 0.4906$ b) $a = \text{invNorm}(.877, 0, 1) \approx 1.1601$
10. a) i) 0.5889 ii) 0.0863 b) 95.74 grams
11. a) 2.3263 b) -0.5244 c) 1.6449 d) 1.2816
12. a) 0.1056 b) 0.6853 c) 0.1974 d) 0.9082
13. a) Look for a probability (area) of 0.24 "inside" the table
 b) Look for a probability (area) of 0.375 "inside" the table
14. 0.6745
15. a) 88.49% b) 31.08% c) 0.9772
 d) 9.10 kg e) 3.80 kg
16. a) 0.5858 b) 0.9332 c) 0.0122
17. 1.2816
18. -0.3853
19. a) i) 0.9332 ii) 0.3829 b) 12.6527 kg
20. a) $P(Z < 1.76) = \text{normalcdf}(-10, 1.76, 0, 1) \approx 0.9608$
 b) $P(Z > 0.5) = \text{normalcdf}(0.5, 10, 0, 1) \approx 0.3085$
 c) $P(Z \geq 0.4) \approx 0.3446$ d) $P(-1/3 \leq Z \leq 1/3) \approx 0.2611$
 e) $P(Z \leq -0.75) \approx 0.2266$ f) $1 - P(-1 < Z < 2) \approx 0.1814$
21. a) 0.8416 b) 1.0364
22. a) 0.3829 b) 5.21%
 c) $P(\text{one log is within 2 cm of the mean}) \approx 0.19741255$
 $P(\text{all 8 logs are within 2 cm of the mean}) \approx (0.19741255)^8 \approx 0.000002307$
23. a) 0.0179 b) 1518 people c) Approximately 135
24. a) 8.08% b) Approximately 242 days

