

1. Suppose that 16-ounce bags of chocolate chip cookies are produced with weights that follow a Normal distribution with mean weight 16.1 ounces and standard deviation 0.1 ounce. The proportion of bags that will contain between 15.9 and 16.3 ounces is about
- (a) .54
 - (b) .68
 - (c) .95
 - (d) .65281
 - (e) .025

2. Using the standard normal distribution tables, what is the area under the standard normal curve corresponding to $Z > -1.22$?
- A) 0.1151. B) 0.1112. C) 0.3888. D) 0.8849.
E) 0.8888.

3. Which of the following is NOT CORRECT about a standard Normal distribution?
- (a) The proportion of scores that satisfy $0 < Z < 1.5$ is 0.4332.
 - (b) The proportion of scores that satisfy $Z > -2.5$ is 0.4938
 - (c) The proportion of scores that satisfy $Z > 2.0$ is 0.0228.
 - (d) The proportion of scores that satisfy $Z < 1.5$ is 0.9332.
 - (e) The proportion of scores that satisfy $Z < -1.0$ is 0.1587.

4. The length of human pregnancies from conception to birth varies approximately Normal with a mean of 266 and a standard deviation of 16. What percent of pregnancies last at least 245 days?
- (a) 9.5% (b) 68% (c) 56.2% (d) 16.0% (e) 90.5%

5. Students in different states go to school a different amount of days per year. Data was collected by MB magazine all across the country recording the total days per year a student went to school. The distribution was approximately Normal with $\mu = 185.4$ and $\sigma = 3.7$. What percentage of schools have school years of at most 182 days?
- (a) .8210
 - (b) .1587
 - (c) .8413
 - (d) .1790
 - (e) .0128

6. If a store runs out of advertised material during a sale, customers

become upset, and the store loses not only the sale but also goodwill. From past experience, a music store finds that the mean number of CDs sold in a sale is 600, the standard deviation is 15, and a histogram of the demand is approximately Normal. The manager is willing to accept a 2.5% chance that a CD will be sold out. About how many CDs should the manager order for an upcoming sale?

- (a) 570 (b) 585 (c) 615 (d) 630 (e)

555

7. On the SAT math sections, scores are distributed approximately Normal. If the standard deviation of the scores is 85, find the mean score on the math section given that a score of 430 will put you in the 15th percentile.

- A) 518
B) 549
C) 342
D) 311
E) 538

8. ACT scores from the past year are distributed approximately Normal. If the mean score is a 17.1 with a standard deviation of 2.8 what score must a student get to be in the 85th percentile?

- A) 21.02 B) 13.18 C) 14.19 D) 20.01 E) 12.9

9. If the heights of American men follow a Normal distribution, and 99.7% have heights between 64" and 82", what is your estimate of the standard deviation of the heights of American men?

- (a) 1" (b) 3" (c) 4" (d) 6" (e) 12"

10. When Tiger Woods is on the driving range, the distance that golf balls travel when he hits them with a driver follows a Normal distribution with mean 310 yards and standard deviation 8 yards. How far must he drive to be in the 20th percentile?

- (a) 294 (b) 303 (c) 310 (d) 300 (e) 298

Assume the scores are Normally distributed. 8,542 students took the AP Statistics test in 1998. On the multiple choice section that year, 3,943 students got 23 or fewer questions correct. 942 students got 32 or more questions correct.

11) What is the standard deviation of the 1997 AP Statistics multiple choice exam:

12) What is the mean score on the 1997 AP Statistics multiple choice exam:

13) What percentage of students got 20 or fewer questions correct according to the data above: