

- 1) A normal population has a mean  $\mu = 31$  and standard deviation  $\sigma = 8$ . What proportion of the population is less than 29? 1) \_\_\_\_\_  
A) 0.5987                      B) 0.7517                      C) 0.4013                      D) 1.0000
- 2) A normal population has a mean  $\mu = 33$  and standard deviation  $\sigma = 8$ . What is the probability that a randomly chosen value will be greater than 30? 2) \_\_\_\_\_  
A) 0.3557                      B) 0.7486                      C) 0.7881                      D) 0.6480
- 3) The average length of crocodiles in a swamp is 12.5 feet. If the lengths are normally distributed with a standard deviation of 2.1 feet, find the probability that a crocodile is more than 12 feet long. 3) \_\_\_\_\_  
A) 0.09                              B) 0.91                              C) 0.59                              D) 0.41
- 4) The average gas mileage of a certain model car is 30.0 miles per gallon. If the gas mileages are normally distributed with a standard deviation of 0.75 miles per gallon, find the probability that a car has a gas mileage of between 29.8 and 30.2 miles per gallon. 4) \_\_\_\_\_  
A) 0.213                              B) 0.273                              C) 0.287                              D) 0.107
- 5) The average height of flowering cherry trees in a certain nursery is 9.5 feet. If the heights are normally distributed with a standard deviation of 1.3 feet, find the probability that a tree is less than 11.5 feet tall. 5) \_\_\_\_\_  
A) 0.88                              B) 0.94                              C) 0.97                              D) 0.82
- 6) For the standard normal curve, find the z-score that corresponds to the 90<sup>th</sup> percentile. 6) \_\_\_\_\_  
A) 0.28                              B) 1.28                              C) 1.52                              D) 2.81
- 7) The times for completing one circuit of a bicycle course are normally distributed with a mean of 68.0 minutes and a standard deviation of 4.9 minutes. An association wants to sponsor a race but will cut the bottom 25% of riders. In a trial run, what should be the cutoff time? 7) \_\_\_\_\_  
A) 64.7    B) 67.4
- 8) A bottler of drinking water fills plastic bottles with a mean volume of 999 milliliters (mL) and standard deviation 7 mL. The fill volumes are normally distributed. What is the probability that a bottle has a volume greater than 992 mL? 8) \_\_\_\_\_  
A) 0.8413                              B) 0.9987                              C) 1.0000                              D) 0.8810

- 9) In order to be accepted into a certain top university, applicants must score within the top 5% on the SAT exam. Given that the exam has a mean of 1000 and a standard deviation of 200, what is the lowest possible score a student needs to qualify for acceptance into the university? 9) \_\_\_\_\_
- A) 1250                      B) 1100                      C) 1328                      D) 1400

Answer Key

Testname: PRACTICE17

- 1) C
- 2) D
- 3) C
- 4) A
- 5) B
- 6) B
- 7) A
- 8) A
- 9) C