

For 1–6, find the z-score of a particular measurement given the mean and standard deviation. Round your answer to 2 decimal places and then describe what the z-score means.

1. The score was 72,  $\mu = 60, \sigma = 7$
2. The score was 55,  $\mu = 60, \sigma = 7$
3. The score was 91,  $\mu = 75, \sigma = 5$
4. The score was 65,  $\mu = 75, \sigma = 5$
5. The score was 2205,  $\mu = 2100, \sigma = 165$
6. The score was 2087,  $\mu = 2100, \sigma = 165$

For 7–12, use a z-table to find the probability of a particular measurement. Remember to round your z-score to 2 decimal places before cross-referencing the z-table.

7. The scores on an exam were normally distributed with  $\mu = 67$ ,  $\sigma = 9$  and Chris scored an 80 on the exam. Chris's exam grade was higher than what percentage of test-takers?
  
  
  
  
  
  
  
  
  
  
8. The scores on an exam were normally distributed with  $\mu = 72$ ,  $\sigma = 5$  and Amanda scored an 80 on the exam. Amanda's exam grade was higher than what percentage of test-takers?
  
  
  
  
  
  
  
  
  
  
9. The scores on an exam were normally distributed with  $\mu = 65$ ,  $\sigma = 4$  and Nathan scored a 54 on the exam. Nathan's exam grade was higher than what percentage of test-takers?
  
  
  
  
  
  
  
  
  
  
10. Veronica took a test and scored an 80% on the test. The teacher indicates that the mean ( $\mu$ ) was 70% with a standard deviation ( $\sigma$ ) of 8. Veronica's grade was higher than what percentage of her class mates?
  
  
  
  
  
  
  
  
  
  
11. Anderson took a test and scored a 61% on the test. The teacher indicates that the mean ( $\mu$ ) was 70% with a standard deviation ( $\sigma$ ) of 8. Anderson's grade was higher than what percentage of her class mates?
  
  
  
  
  
  
  
  
  
  
12. Erica took a test and scored a 70% on the test. The teacher indicates that the mean ( $\mu$ ) was 70% with a standard deviation ( $\sigma$ ) of 8. Erica's grade was higher than what percentage of her class mates?