

## Test 28 (Lessons 55–56): Independent and Dependent Probabilities

**State whether each scenario represents an independent or dependent event.**

- 1) A group of students are attending a field trip. They form a single-file line to board the bus and select their seats one at a time.
- 2) Mrs. Donovan has a set of classroom calculators for her math class. Each student is assigned a specific calculator to use for the school year.
- 3) Ollie picks a pair of shoes to wear each day from her shoe rack. At the end of the day, the pair of shoes is replaced. The next day, Ollie selects any pair of shoes from the rack.

**For problems 4–5, determine the probability. Round to the nearest tenth of a percent.**

A preschool teacher observed that 87% of her students took an afternoon nap.

- 4) If there are fourteen students in the class, what is the likelihood that exactly ten children took a nap?
- 5) If there are twelve students in the class, what is the likelihood that two or fewer students are *not* napping?

**For problems 6–8, determine the probability to the nearest percent.**

At South Street High School, 60% of the students who audition for the school play are newcomers, and 40% are veteran cast members. Of the newcomers who audition, 70% get a role. Of the veterans who audition, 90% get a role.

- 6) Determine the probability that a randomly selected student who auditioned is a newcomer AND earned a role.
  
  
  
  
  
  
  
  
  
  
- 7) What is the probability that a randomly selected student who auditioned got a role?
  
  
  
  
  
  
  
  
  
  
- 8) If a student got a role, determine the probability that they are a veteran cast member.

**For problems 9–10, write answers as a simplified fraction.**

- 9) What is the probability of rolling an even number followed by a number less than five on a six-sided die?
  
  
  
  
  
  
  
  
  
  
- 10) Each letter in the word MATHEMATICS is written on a slip of paper. What is the chance of selecting the letter M and then a repeated letter when the paper is replaced?